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ABSTRACT

Fourteen recent studies (published since 1980) regarding the status of public education in America and the relationship between education and the economy are analyzed in this paper. Also reviewed are two futures reports and two studies completed by individual States. The analysis is divided into five subject headings: (1) goals and expectations; (2) curriculum, including discussions of administrative issues, subject areas/competencies, and special populations; (3) the teaching and learning process, focusing on management, evaluation, and higher education; (4) the profession, examining in particular teacher education, the professionalization of teachers, the principal, and public attitudes toward teachers; and (5) responsibility/leadership. Each of these five sections contains a graph which shows the topics addressed by each report analyzed, as well as a summary. The final summary focuses on implications for decisionmakers interested in setting goals and formulating plans for educational improvement in their school systems. (GC)

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AN ANALYSIS OF REPORTS ON THE STATUS OF EDUCATION IN AMERICA: FINDINGS, RECOMMENDATIONS, AND IMPLICATIONS



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This analysis has been prepared specifically for the Tyler Independent School District administrative staff and for presentation at the Conference of School Superintendents of Cities of 100,000 to 300,000 in Washington, D.C., October, 1983. Any errors in classification and/or interpretation of information selected from the studies are the responsibility of the authors.

INTRODUCTION

Since the publication of the report, "A Nation at Risk" by the National Commission on Excellence in Education, a great deal of interest has been aroused regarding the status of public education in America. While this report has received considerable publicity, it is but one of many reports dealing basically with the same subject. The purpose of this paper is to analyze a number of these studies, present findings and recommendations according to areas of concern, and locate incidents of congruence and divergence contained in the reports. In addition, some implications are presented as a result of the analysis of the information.

This report was prepared specifically for the 1983 Conference of School Superintendents of Cities of 100,000 to 300,000 in Washington, D.C., and it will be used within the Tyler Independent School District for the purpose of determining future direction in light of the contents of these reports.

It is the intention of the authors of this paper to provide this material in the hope that it may be useful in the development of specific directions for the future.

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ORGANIZATION

This analysis includes fourteen reports that are national in scope and focus directly on the educational process or the relationship between education and the nation's economy. Two futures reports that have received national recognition are contained in the review since they address the emerging trends in education leading into the information age. Two recent studies completed by individual states were selected to serve as indicators of direction being taken at the state level.

The categories included in the analysis and the organizational structure of this paper were driven by the data reported in the studies. The broad divisions are

- Goals and Expectations,
- Curriculum,
- The Teaching-Learning Process,
- The Profession, and
- Responsibility/Leadership.

Each division contains an outline and a graph showing the topics addressed by each report included in this analysis. Following the graph is a listing of findings, observations and/or recommendations categorized by topic. The entries are as close to the exact wording used in the reports as possible to convey original meaning. In some entries, the information is out of context, but is included to support data in that category. The source of the information is indicated by the report number following the entry. Following the classified entries is a summary analysis of the information in that division.

A final summary is included at the end along with implications that decision-makers may want to consider as they review the studies. An appendix is attached which contains specific competencies recommended in the reports.

The purpose of the analysis of this information is to bring together major concerns and recommendations compiled by outstanding leaders in education, business, government, and research that have been judged as critical areas needing the most urgent attention by educators. The staff of the *Tyler Independent School District* will use this analysis as a guide for an indepth study of the current status of education at the local, state, and national levels in relation to the expectations and recommendations from the major studies. This base of information will serve as foundation for setting goals and formulating a plan of action to direct the local district toward a higher level of excellence in education.

KEY TO SOURCES OF INFORMATION

Findings, observations and recommendations from the major educational studies are categorized according to topics addressed in the reports. The source of the information is noted at the end of each entry by a number in parentheses. Following is a key to the source of each entry:

- (1) "A NATION AT RISK," Commission on Excellence in Education
- (2) "ACTION FOR EXCELLENCE," National Task Force On Education For Economic Growth, ECS
- (3) "ACADEMIC PREPARATION FOR COLLEGE: WHAT STUDENTS NEED TO KNOW AND BE ABLE TO DO," The College Board
- (4) "BUILDING PARTNERSHIPS," The President's Task Force on Private Sector Initiatives
- (5) "EDUCATING AMERICANS FOR THE 21ST CENTURY," National Science Board Commission on Precollege Education in Mathematics, Science and Technology
- (6) "EDUCATION AND ECONOMIC PROGRESS TOWARD A NATIONAL EDUCATIONAL POLICY: THE FEDERAL ROLE," James Hunt, Governor of North Carolina and David Hamburg, President of Carnegie Corporation
- (7) "FEDERAL ELEMENTARY AND SECONDARY EDUCATION POLICY," Twentieth Century Fund Task Force
- (8) "THE FEDERAL ROLE IN EDUCATION: A FOUNDATION FOR THE FUTURE," National School Board Association
- (9) "THE 15TH ANNUAL GALLUP POLL OF THE PUBLIC'S ATTITUDES TOWARD THE PUBLIC SCHOOLS," George H. Gallup
- (10) "HIGH SCHOOL: A REPORT ON AMERICAN SECONDARY EDUCATION," Carnegie Foundation for the Advancement of Teaching
- (11) THE PAIDEIA PROPOSAL, AN EDUCATIONAL MANIFESTO, The Paideia Group, Mortimer J. Adler
- (12) "A STUDY OF HIGH SCHOOLS," National Association of Secondary School Principals and the National Association of Independent Schools
- (13) "A STUDY OF SCHOOLING: SOME FINDINGS AND HYPOTHESES," Phi Delta Kappan, March, 1983
"A STUDY OF SCHOOLING: SOME IMPLICATIONS FOR SCHOOL IMPROVEMENTS," Phi Delta Kappan, April, 1983
- (14) "TOO SOON TO CHEER? SYNTHESIS OF RESEARCH ON EFFECTIVE SCHOOLS," Educational Leadership, December, 1982
- (15) MEGATRENDS: TEN NEW DIRECTIONS TRANSFORMING OUR LIVES, John Naisbitt
- (16) "WHAT THE NEXT 50 YEARS WILL BRING," U.S. News and World Report, May 9, 1983
- (17) "FINAL RECOMMENDATIONS OF THE COMMISSION ON QUALITY

TEACHING," Commission on Quality Teaching, Maryland State Board of Education

- (18) "A POLICY STATEMENT: A STATE IN MOTION IN THE MIDST OF A NATION AT RISK," Texas State Board of Education

1. TITLE OF REPORT: **"A NATION AT RISK"**
- COMMISSION: **NATIONAL COMMISSION ON EXCELLENCE IN EDUCATION**
- CHAIRMAN: **DAVID P. GARDNER**
President, University of Utah and President-Elect
of University of California
- NO. OF MEMBERS: 18
- DATES: Initiated August, 1981; released April, 1983; duration
18 months
- TARGETED GROUP: The nation's public and private schools, colleges, and
universities
- PURPOSE(S): Appointed by Secretary Bell to present a report on the
quality of education in America to him and to the
American people. Specific charges:
- Assess the quality of teaching and learning in our
Nation's public and private schools, colleges, and
universities;
 - Compare American schools and colleges with those of
other advanced nations;
 - Study the relationship between college admission
requirements and student achievement in high school;
 - Identify educational programs which result in notable
student success in college;
 - Assess the degree to which major social and
educational changes in the last quarter century have
affected student achievement; and
 - Define problems which must be faced and overcome if
we are successfully to pursue the course of excellence
in education.

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2. TITLE OF REPORT: **"ACTION FOR EXCELLENCE"**
- COMMISSIONS: **EDUCATION COMMISSION OF THE STATES
NATIONAL TASK FORCE ON EDUCATION FOR
ECONOMIC GROWTH**
- CHAIRMAN: **GOVERNOR JAMES B. HUNT OF NORTH
CAROLINA**
- NO. OF MEMBERS: 41
- DATES: Initiated 1982; released June 22, 1983;
duration one year
- TARGETED GROUP: The nation's public schools from kindergarten through
twelfth grade

PURPOSE(S): The task force will be action oriented. . .draw heavily on relevant data and resources that already exist. . .focus primarily on strategies for improving the quality of high school graduates, especially those skills required for economic growth. . .and give momentum to the growing interest and concern among governors and corporate leaders for the quality of our public schools.

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3. TITLE OF REPORT: **"ACADEMIC PREPARATION FOR COLLEGE: WHAT STUDENTS NEED TO KNOW AND BE ABLE TO DO"**

COMMISSION: **THE COLLEGE BOARD**

CHAIRMAN: **GEORGE H. HANFORD**
President

DATES: Part of a 10 year "Educational Equality Project," released May 11, 1983

TARGETED GROUP: United States High Schools

PURPOSE(S): Achieve consensus on the subjects and competencies high school students need to prepare for college.

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4. TITLE OF REPORT: **"BUILDING PARTNERSHIPS"**

TASK FORCE: **THE PRESIDENT'S TASK FORCE ON PRIVATE SECTOR INITIATIVES**

CHAIRMAN: **C. WILLIAM VERITY, JR.**
Chairman of the Executive Committee
Armco Inc.

NO. OF MEMBERS: 44

DATES: Initiated December, 1981; released December, 1982;
duration one year

TARGETED GROUP: Nation's public schools and private sector

PURPOSE(S):

- Promote private sector leadership and responsibility in meeting public needs.
- Foster an increased level of public/private partnerships in order to decrease dependence on government.

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5. TITLE OF REPORT: **"EDUCATING AMERICANS FOR THE 21ST CENTURY"**
- COMMISSION: **THE NATIONAL SCIENCE BOARD
COMMISSION ON PRECOLLEGE EDUCATION
IN MATHEMATICS, SCIENCE AND
TECHNOLOGY**
- CO-CHAIRMEN: **WILLIAM T. COLEMAN, JR. AND
CECILY CANNON SELBY**
- NO. OF MEMBERS: 20
- DATES: Initiated July, 1982; released September, 1983;
duration one year
- TARGETED GROUP: Precollege (K-12)
Mathematics and science classes
- PURPOSE(S):
- To define a national agenda for improving mathematics and science education in the United States.
 - To develop an action plan that will include a definition of the appropriate roles and responsibilities of federal, state, and local governments, professional and scientific societies, and the private sector in addressing this problem of national dimension.

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6. TITLE OF REPORT: **"EDUCATION AND ECONOMIC PROGRESS
TOWARD A NATIONAL EDUCATIONAL
POLICY: THE FEDERAL ROLE"**
- CHAIRMEN: **JAMES HUNT**, Governor of North Carolina
DAVID HAMBURG, President of Carnegie Corporation
- NO. OF MEMBERS: 50
- DATES: Initiated February 2, 1983
- PURPOSE(S):
1. Formulate recommendations for federal legislation concerning pressing national educational needs that cannot be met by states and the private sector alone.
 2. To review the extraordinary number of initiatives underway across the country.
 3. To explore the desirability and feasibility of taking advantage of the current momentum to develop a coherent national policy linked to economic progress.

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7. TITLE OF REPORT: **"FEDERAL ELEMENTARY AND SECONDARY
EDUCATION POLICY"**

TASK FORCE: **TWENTIETH CENTURY FUND TASK FORCE**

CHAIRMAN: **ROBERT WOOD**
Director of Urban Studies
University of Massachusetts

NO. OF MEMBERS: 12 Member Panel

DATES: Initiated in 1981; released May, 1983;
duration 18 months

TARGETED GROUP: National education and the federal role

PURPOSE(S): Examine federal education policy with the purpose of
making policy recommendations for a federal role in
education, particularly in primary and secondary
education.

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8. TITLE OF REPORT: **"THE FEDERAL ROLE IN EDUCATION:
A FOUNDATION FOR THE FUTURE"**

SOURCE: **NATIONAL SCHOOL BOARD ASSOCIATION**

AUTHOR: **MICHAEL A. RESNICK**
Assistant Executive Director of NSBA's Legislative
Section

DATES: 1982

PURPOSE(S): To present a starting point for dialogue across the nation
concerning the federal role in elementary and secondary
education.

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9. TITLE OF REPORT: **"THE FIFTEENTH ANNUAL GALLUP POLL OF
THE PUBLIC'S ATTITUDES TOWARD THE
PUBLIC SCHOOLS"**

CHAIRMAN: **GEORGE H. GALLUP**

DATES: Initiated May, 1983; released August, 1983

TARGETED GROUP: The American public

PURPOSE(S): To measure the attitudes of Americans toward their public
schools

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10. TITLE OF REPORT: **"HIGH SCHOOL: A REPORT ON AMERICAN SECONDARY EDUCATION"**
- COMMISSION: **CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING**
- CHAIRMAN: **ERNEST L. BOYER**, President
- NO. OF MEMBERS: 28
- DATES: Initiated Spring, 1980; Released Sept., 1983
duration 3 years
- TARGETED GROUP: American public high schools
- PURPOSE(S):
- To examine the current condition of the nation's high schools to search for ways to strengthen the academic quality of the public schools
 - To advance equality as the quality of education is improved for every student

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11. TITLE OF REPORT: **THE PAIDEIA PROPOSAL, AN EDUCATIONAL MANIFESTO**
- SOURCE: **THE PAIDEIA GROUP**
- CHAIRMAN: **MORTIMER J. ADLER**, Author
- NO. OF MEMBERS: 22
- DATES: Initiated in 1978; released 1980;
duration 2 years
- TARGETED GROUP: Public education
- PURPOSE(S): To examine the present educational system and make recommendations for educational reform.

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12. TITLE OF REPORT: **"A STUDY OF HIGH SCHOOLS"**
- SOURCE: **NATIONAL ASSOCIATION OF SECONDARY SCHOOL PRINCIPALS AND THE NATIONAL ASSOCIATION OF INDEPENDENT SCHOOLS**
- CHAIRMAN: **THEODORE E. SIZER**
Professor of Education
Harvard University
- DATES: Initiated in 1981; released 1984;
duration four-year study
- TARGETED GROUP: United States High Schools

PURPOSE(S):

- Synthesize what educators know about adolescent learning and good high schools.
- Examine the nature of change in high schools, especially since World War II.
- Paint a more accurate picture of the complexities of life in high schools today than has ever been done before.
- Suggest ways and means of reforming the instructional process in light of the findings made on the first three areas of inquiry.

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13. TITLE OF REPORT:

"A STUDY OF SCHOOLING: SOME FINDINGS AND HYPOTHESES"

"A STUDY OF SCHOOLING: SOME IMPLICATIONS FOR SCHOOL IMPROVEMENTS"

SOURCE:

PHI DELTA KAPPAN, March, 1983
and April, 1983

AUTHOR:

JOHN I. GOODLAD

Dean of the Graduate School of Education
University of California

NO. OF RESEARCHERS: 34

DATES:

Initiated 1974; released March, 1983;
duration nine years

TARGETED GROUP:

Public elementary and secondary schools

PURPOSE(S):

Understanding schools in order to improve them.

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14. TITLE OF REPORT:

"TOO SOON TO CHEER? SYNTHESIS OF RESEARCH ON EFFECTIVE SCHOOLS"

SOURCE:

EDUCATIONAL LEADERSHIP, Vol. 40,
No. 3, December 1982, pp. 64-69

AUTHORS:

STEWART C. PURKEY AND MARSHALL S. SMITH

NO. OF REFERENCES: 42

DATES:

1974 through 1982;
duration 8 years

TARGETED GROUP:

Effective schools

PURPOSE(S):

To identify characteristics that together create a school culture conducive to student achievement.

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15. TITLE OF REPORT: **MEGATRENDS: TEN NEW DIRECTIONS
TRANSFORMING OUR LIVES**
- CHAIRMAN: **JOHN NAISBITT**, Author
Futurist
- COPYRIGHT DATE: 1982
- TARGETED GROUP: The American public
- PURPOSE(S): To focus on the megatrends or broad outlines beginning
in today's world that will define a new American society.

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16. TITLE OF REPORT: **"WHAT THE NEXT 50 YEARS WILL BRING"**
- SOURCE: **U.S. NEWS AND WORLD REPORT**
May 9, 1983
- EDITOR: **MARVIN L. STONE**
- TARGETED GROUP: The American public
- PURPOSE(S): A special report to mark the Golden Anniversary of U.S.
News and World Report

☆ ☆ ☆ ☆ ☆

17. TITLE OF REPORT: **"FINAL RECOMMENDATIONS OF THE
COMMISSION ON QUALITY TEACHING"**
- COMMISSION: Commission on Quality Teaching, Maryland State Board
of Education
- CHAIRMAN: **STEPHEN McNIERNEY**
Senior Vice President of Black and Decker
- NO. OF MEMBERS: 28
- DATES: Initiated April, 1981; released October, 1982;
duration 18 months
- TARGETED GROUP: Public education in the State of Maryland
- PURPOSE(S): To consider the issues related to quality teaching within
the framework of the following seven areas:
1. Early Student Interest
 2. Entry into the Teacher Education
 3. Professional Education
 4. Certification and a Certification Examination
 5. Probationary Support and Assessment
 6. The Experienced Teacher
 7. Teacher Reward System

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18. TITLE OF REPORT: **"A POLICY STATEMENT: A STATE IN MOTION
IN THE MIDST OF A NATION AT RISK"**

COMMISSION: **TEXAS STATE BOARD OF EDUCATION**

CHAIRMAN: **JOE KELLY BUTLER**

NO. OF MEMBERS: 28

DATES: June 11, 1983

TARGETED GROUP: Public education in the State of Texas

PURPOSE(S): To identify areas of critical concern regarding public
education in Texas.

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GOALS, EXPECTATIONS, AND CURRICULUM

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		STANDARDS										SUBJECT AREAS										SPECIAL POPULATIONS				
		I. GOALS AND EXPECTATIONS										II. CURRICULUM														
		Goals and Expectations										Standards														
		Tracking										Education for All														
		Graduation Requirements										English/Language Arts														
		Mathematics										Science														
		Technology										Reasoning/Thinking														
		Social Studies/Thinking										Foreign Studies/Citizenship														
		Vocational Language										Study/Learning Skills														
		Fine Arts										Health/Physical Skills														
		Electives										Extra-Curricular Education														
		Bilingual/ESL										Economically Deprived														
		Gifted/Talented										Minorities/Women														
		Remedial/Ed. Deficient										Special Education														
NATIONAL STUDIES																								TOTAL		
1	A Nation at Risk NCEE	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	20		
2	Action for Excellence ECS	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	13		
3	Academic Prep. COL.BD	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	11		
4	Bldg. Partnerships PSI	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	1		
5	Ed.Adm. 21st Cen. NSF	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	8		
6	Ed.&Eco.Pr., Fed.Role LCEEG	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	8		
7	Fed.El. & Sec. Ed. 20TH C.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	10		
8	Federal Role NSBA	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	7		
9	Gallup Poll PDK	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	6		
10	High Schools CARNEGIE	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	20		
11	Paideia Proposal ADLER	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	18		
12	Study of H.Schools NASSP	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	10		
13	Study of Schools GOODLAD	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	11		
14	Too Soon to Cheer?EF.S.RES.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	2		
FUTURES REPORTS																										
15	Megatrends NAISBITT					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	4		
16	US News & World Report	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	9		
STATE REPORTS																										
17	Final Recommendations MSBE	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	1		
18	Policy Statement TSBE	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	9		
TOTAL		17	13	3	10	6	10	13	12	10	8	6	9	8	7	4	2	4	2	3	3	5	4	5	4	168

Findings/Observations

Recommendations

I. GOALS AND EXPECTATIONS

- ° Our society and its educational institutions seem to have lost sight of the basic purposes of schooling, and of the high expectations and disciplined effort needed to attain them. (1)
- ° America's position in the world may once have been reasonably secure with only a few exceptionally well-trained men and women. It is no longer. (1)
- ° The educational foundations of our society are presently being eroded by a rising tide of mediocrity and threatens our very future as a nation and a people. (1)
- ° Our greatest overall educational deficiency in the United States is our absence of clear, compelling and widely agreed-upon goals for improving educational performance. (2)
- ° Among the world's industrialized nations, the United States appears to expect the least of its youth in terms of academic effort and achievement. (2)
- ° We have expected too little of our schools over the past two decades, in terms of quality--and we have gotten too little. The result is that our schools are not doing an adequate job of education for today's requirements in the workplace, much less tomorrow's. (2)
- ° This study recommends reform of the educational system in fundamental ways and renewal of the nation's commitment to schools and colleges of high quality throughout the length and breadth of our land. (1)
- ° States and communities--specifically including educators, business and labor leaders and other interested parties--should identify clearly the skills that the schools are expected to impart to students for effective employment and citizenship. The expected standards should be widely communicated so that there will be broad understanding of the mission of the schools. (2)
- ° Education has deeper purposes than merely to prepare people for jobs. To define the mission of the schools along narrowly utilitarian lines would be to misperceive the purpose of schooling. But if preparation for work is not the only aim of education, it is nonetheless a very important aim. And surely education for economic growth is

I. GOALS AND EXPECTATIONS

Findings/Observations

Recommendations

I. GOALS AND EXPECTATIONS (Con't)

- ° In order to improve preparation for college, the necessary outcomes of high school study must be identified: the knowledge and skills needed to obtain the full benefits of higher education. This study outlines what college entrants need to know and be able to do. (3)

a worthwhile goal around which to organize our efforts and to rally the American people in the cause of improving the nation's schools. (2)

- ° By almost every measure--the commitment and competency of teachers, student test scores, truancy and dropout rates, crimes of violence--the performance of our schools falls far short of expectations. (7)

- ° National leadership for a sustained period of time is essential to keep the nation's feet to the fire with respect to the need for educational improvement. There is a need for an emphasis on math, science, engineering, and foreign languages, as well as improvement in the humanities and social sciences, which not only develops critical thinking and problemsolving skills but also addresses the essential value questions posed by science and technology linked to economic growth. (6)

- ° The federal government must assume a role of strong leadership that guides states and communities toward excellence in education without impeding local control.(7)

I. GOALS AND EXPECTATIONS

Findings/Observations

Recommendations

I. GOALS AND EXPECTATIONS (Con't)

- ° Major policy decisions need to be made about the federal role in education. Should the role of education in our society be altered? Should public schools continue to be the primary deliverer of the government's responsibility to ensure the education of its citizenry? What aspects of the nation's interest in education are best provided for by the federal government? This report encourages dialogue on one fundamental all-encompassing policy issue--the national interest and resultant federal role in education. (8)
- ° A high school, to be effective, must have a clear and vital mission. Educators must have a shared vision of what, together, they are trying to accomplish. That vision should go beyond keeping students in school and out of trouble, and be more significant than adding up the Carnegie course units the student has completed. (10)
- ° The three common callings to which all our children are destined are: to earn a living in an intelligent and responsible fashion, to function as intelligent and responsible citizens, and to make both of these things serve the purpose of leading intelligent and responsible lives--to enjoy as fully as possible all the goods that make a human life as good as it can be. (11)
- ° As decision makers at all levels consider the federal role in education, care must be taken to ensure that the value of education, the value of public education, the concept of the federal role in education, as well as individual programs and needs are deliberated. (8)
- ° Every high school should establish clearly stated goals--purposes that are widely shared by teachers, students, administrators, and parents. (10)
- ° School goals should focus on the mastery of language, on a core of common learning, on preparation for work and further education, and on community and civic service. (10)

I. GOALS AND EXPECTATIONS

Findings/Observations

Recommendations

I. GOALS AND EXPECTATIONS (Con't)

- ° We have, it seems, extraordinary faith in education and grandiose expectations for schools. We expect schools to teach the fundamentals, expose students to the world's knowledge, socialize them into our ways of governing and conducting economic affairs, develop their individual talents, and "civilize" them even when we as parents frequently feel unable to do so. Yet successive waves of disaffection for schooling concentrate almost exclusively on the small piece of academic shoreline we measure with achievement tests. (13)
- ° The goals for high schools are numerous and seem to continue multiplying, with little regard for the severe limits imposed by a lack of school staff, equipment, and time. (12)
- ° In most high schools, a shorter, simpler, better-defined list of goals is necessary; this will involve shelving the long-standing claims of certain subject areas. For example, driver education may have to give way to English. Athletic and chorus trips may no longer be allowed to preempt teaching time, which might mean curtailing interscholastic athletic and arts programs. Chemistry may have to be dropped as a separate subject in order that biology and physics can be taught well. The list must be long, and the necessary constrictions will be as painful as they are inescapable. (12)
- ° States should articulate clearly the full range of goals for schooling that have emerged over time and on which there now appears to be substantial agreement. Currently, such goals are usually merged inconspicuously with other directives in state documents. The charge to schools is not at all clear. School districts should be expected to assure the presence in each school of a comprehensive curriculum encompassing academic, citizenship, vocational, and personal goals equally accessible to all students. (13)

I. GOALS AND EXPECTATIONS

Findings/Observations

Recommendations

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I. GOALS AND EXPECTATIONS (Con't)

- ° We are prone to regard schools as goal-oriented factories engaged in processing human materials. But no matter how much we seek to reduce goals to specific operations and to redesign the programs of instruction to emphasize these operations, the most important thing about school for the children and youth who go there is the living out of their daily personal and social lives, not academics. There is not one set of goals; there are many. (13)
- ° The irony is that every statement of goals for schooling--whether those we extracted from official state documents, those formulated by legislative committees trying to define basic education, or those put together by parent or teacher groups--is broad and comprehensive in its implications for classroom practice. Yet pedagogy and curricula are geared, it appears, to only a small fraction of these goals--to the lowest common denominators. Schools and those who work in them are not chastised for perpetuating this discrepancy. Rather they are reinforced for doing so and run a serious risk of censure if they try to do otherwise. (13)
- ° Research studies on school effectiveness have found repeatedly that academically effective schools have clear goals related to student achievement and teachers and parents with high expectations. (14)
- ° As learning becomes more accessible, more efficient and more rewarding for a greater number of people, the result should be a better-educated citizenry. (16)

Findings/Observations

Recommendations

I. GOALS AND EXPECTATIONS (Con't)

On the world stage, the United States will retain its status as the No. 1 global power while the Soviet Union falls behind. In relative terms, the U.S. will decline while other nations such as West Germany, Japan and even Brazil gain in economic and political stature. But no country in the next half-century will be able to challenge the preeminence of a United States endowed with vast natural resources, a modern industrial plant and a large, educated population. (16)

II. CURRICULUM

A. Administration

1. STANDARDS

- ° Secondary school curricula have been homogenized, diluted, and diffused to the point that they no longer have a central purpose. (1)
- ° This curricular smorgasbord, combined with extensive student choice, explains a great deal about where we find ourselves today. We offer intermediate algebra, but only 31% of our recent high school graduates complete it; we offer French I, but only 13% complete it... (1)
- ° Students have migrated from vocational and college preparatory programs to "general track" courses in large numbers. The proportion of students taking a general program of study has increased from 12% in 1964 to 42% in 1979. (1)
- ° Educational deficits in the specific fields most closely related to technological progress, mathematics and science, are especially disturbing. The U.S. today can still lay claim, narrowly, to technological leadership in the world. (2)
- ° We recommend that schools, colleges, and universities adopt more rigorous and measurable standards and higher expectations for academic performance and student conduct, and that 4-year colleges and universities raise their requirements for admission. (1)
- ° The curriculum in the crucial 8 grades leading to high school years should be specifically designed to provide a sound base for study in those and later years in such areas as English language development and writing, computational and problem-solving skills, science, social studies, foreign language, and the arts. These years should foster an enthusiasm for learning and the development of the individual's gifts and talents. (1)
- ° We urge the states and local school systems to launch energetic efforts to strengthen the curriculum from kindergarten through high school. If the needs of our society and of industry for skilled and well-educated people are to be met, courses not only in mathematics and science, but

II. CURRICULUM

A. Administration

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Findings/Observations

Recommendations

1. STANDARDS

- ° Our technological supremacy has eroded as other nations have expanded their own capacities. Our ability to compete is threatened, for example, by a shortage of skilled engineers and scientists--and, perhaps more seriously, by a lack of general scientific and mathematical literacy: forms of literacy which will be essential if our citizens are to support a technologically advancing economy. (2)
 - ° Increasingly, people who have only today's basic skills--or less than today's basics--will be consigned to economic stagnation. (2)
 - ° We must return to basics, but the "basics" of the 21st century are not only reading, writing and arithmetic. They include communication and higher problem-solving skills, and scientific and technological literacy--the thinking tools that allow us to understand the technological world around us. (5)
- in all disciplines, must be enlivened and improved. (2)
 - ° Where nonessential and peripheral courses have invaded the curriculum, school systems must have the courage to put new emphasis on core academic subjects and must devote more time to them. Students should be introduced earlier to such critical subjects as science, and they should spend more time exploring them.(2)
 - ° Our definition of basic skills must expand to include more of the skills that will be demanded in tomorrow's technologically sophisticated workplace. In the future, for example, minimal basic competency may well include skills considerably broader than those we consider basic today. (2)
 - ° The educational system must be mobilized to teach the new skills. We must launch an effort to transmit to all the nation's students higher levels of the skills required to function in tomorrow's workplace: levels sufficiently high to afford them choice and opportunity in tomorrow's economy. (2)
 - ° We emphasize the teaching and learning of mathematics, science and technology in elementary and secondary schools. We recognize, however, that this area cannot be separated from the teaching and learning of many other important subjects, such as English, foreign languages and history. We hope that glaring deficiencies in these areas will be met with the same sense of urgency. (5)

II. CURRICULUM

A. Administration

22

Findings/Observations

Recommendations

1. STANDARDS (Con't)

- ° In response to the question, "What do you think are the biggest problems with which the public schools in this community must deal?" 14% of the citizens interviewed cited poor curriculum/poor standards which ranked third on a list of 25. Discipline was named by 25% and ranked at the top of the list. (9)
- ° Parents who are sending their children to nonpublic schools are more satisfied with the learning that takes place there--and with the general curriculum--than are parents who are sending their children to the public schools. The difference is not great, however, and a high degree of satisfaction is found among both groups. Both groups have registered some decline in satisfaction with the general curriculum since 1973. (9)
- ° A core of common learning is essential. The basic curriculum should be a study of those consequential ideas, experiences, and traditions common to all of us by virtue of our membership in the
- ° While maintaining the diversity in educational practices that results from decentralization, schools across the nation must at a minimum provide the same core components to all students. These components are the basic skills of reading, writing, and calculating; technical capability in computers; training in science and foreign languages; and knowledge of civics. (7)
- ° The number of required courses in the core curriculum should be expanded from one-half to two-thirds of the total units required for high-school graduation. (10)

Findings/Observations

Recommendations

1. STANDARDS (Con't)

human family at a particular moment in history. The content of the core curriculum must extend beyond the specialties, and focus on more transcendent issues, moving from courses to coherence. (10)

° In addition to strengthening the traditional courses in literature, history, mathematics, and science, emphasis should also be given to foreign language, the arts, civics, non-Western studies, technology, the meaning of work, and the importance of health. (10)

° The three areas of subject matter indispensable to basic schooling are language, literature, and fine arts; mathematics and natural sciences; history, geography, and social studies. These three comprise the most fundamental branches of learning. (11)

° Labels of subjects are ambiguous and often misleading. In the same breath with which policy makers piously assert the need for "four years of English for all students," they admit that "English" in practice is currently a ragbag of ends and means. High school "improvement" thus ends up as a juggling of slogans. (12)

° The daily activities, academic and otherwise, in which a typical high school student engages are numerous: five or six classes on widely differing topics taken in a random sequence are mixed with some non-academic activity and lots of usually frenetic socializing. The high school scene is as colorful and feverish as it is inimical to the reflection that inescapably accompanies learning to use one's mind. (12)

° Sorting out what students require inescapably uncovers the inadequacy of traditional interpretations of the subjects of study. Absolutely

Findings/Observations

Recommendations

1. STANDARDS (Con't)

fundamental skills of thinking and expression cut across the domains of existing departments. Thus they are often given short shrift. The fractionated curriculum that the high schools have inherited from the 1890s serves us poorly. To reconstruct it will infuriate many academic scholars, scare many teachers who have been narrowly trained by those scholars, and send shivers of apprehension down the spines of parents. The core academic structure of high school, legitimized by the Committee of Ten in 1893, maintains a ferocious hold on our thinking. (12)

- ° The most striking discovery to emerge from the data is what might be called a sameness of form in the substance and design of the curriculum, whether the subject is English/language arts, mathematics, science, or social studies. Adding the arts, physical education, vocational education, and foreign languages creates some irregularities but does not fundamentally distort the symmetry. (13)
- ° Developing "the ability to read, write, and handle basic arithmetical operations" pervades instruction from the first through the ninth grades and the lower tracks of courses beyond. These are the fundamental operations on which schools have concentrated from the beginning. They appear still to be today. Back to the basics is where we always have been. (13)

2. TRACKING

- ° The high school should help all students move with confidence from school to work and further education. Today, we track
- ° The school program should offer a single track for all students, one that includes a strong grounding

Findings/Observations

Recommendations

2. TRACKING (Con't)

students into programs for those who "think" and those who "work," when in fact, life for all of us is a blend of both. Looking to the year 2000 we conclude that, for most students, 12 years of schooling will be insufficient. Today's graduates will change jobs several times. New skills will be required; new citizenship obligations will be confronted. Of necessity, education will be life-long. (10)

- ° At the very heart of a multitrack system of public schooling lies an abominable discrimination. The system aims at different goals for different groups of children. (11)

- ° In spite of strenuous efforts on many sides to eliminate it, segregation of the schools by social class is profound and no less visible at the school level today than it was more than 50 years ago when observed by the Lynds in Middletown. The poor are tracked to be poor, the rich to be rich. Related racial and ethnic stereotyping is pervasive. (12)

in the basic tools of education and a study of the core curriculum. While the first two years would be devoted almost exclusively to the common core, a portion of this work would continue into the third or fourth year. (10)

- ° The last two years of high school should be considered a "transition school," a program in which about half the time is devoted to "elective clusters." (10)
- ° To give the same quality of schooling to all requires a program of study that is both liberal and general, and... one and the same for every child... (11)
- ° The one-track system of public schooling that The Paideia Proposal advocates has the same objectives for all without exception. (11)
- ° Lessening segregation and stereotyping by class, race, gender, and ethnicity requires not only unprejudiced attitudes on the parts of those of us who work in schools but also changes in the structure of schooling. Mastery of the basic core of high school work should be the goal for everybody--a common purpose even if addressed through widely differing means. Diversions from this through early tracking (e.g., decisions on vocational education made at the end of 9th grade) or through magnet programs (sometimes thinly disguised devices to perpetuate segregation) must be resisted. People, especially the more affluent people, like tracking. Any challenge to their enclaves (normally suburban schools in neighborhoods insulated by high property costs) will be fiercely fought. (12)

Findings/Observations

Recommendations

3. EDUCATION FOR ALL

- ° Part of what is at risk is the promise first made on this continent: All, regardless of race or class or economic status, are entitled to a fair chance and to the tools for developing their individual powers of mind and spirit to the utmost. This promise means that all children, by virtue of their own efforts, competently guided, can hope to attain the mature and informed judgment needed to secure gainful employment and to manage their own lives, thereby serving not only their own interests but also the progress of society itself. (1)
- ° Our recommendations are based on the beliefs that everyone can learn, that everyone is born with an urge to learn which can be nurtured, that a solid high school education is within the reach of virtually all, and that life-long learning will equip people with the skills required for new careers and for citizenship. (1)
- ° We must demand the best effort and performance from all students, whether they are gifted or less able, affluent or disadvantaged, whether destined for college, the farm, or industry. (1)
- ° We must raise our expectations and our standards. We must improve the quality of instruction for all students--not just for an elite, but for all. We must raise both the floor and the ceiling of achievement in America, improving educational attainment for the most able students and for other students as well. (2)
- ° Concern for educational quality should be expressed in ways that advance social justice. Educational quality must not lead to actions that limit the aspirations and opportunities of disadvantaged and minority youth, or that would reverse the progress that has already been made. Rather, concern for educational quality must be expressed in a commitment to quality for all students. (3)
- ° The Commission's plan is not only for the affluent or gifted. While it provides the quality and intensity of education needed to continue their development, it also addresses the
- ° The nation should reaffirm its commitment to full opportunity and full achievement by all. Discrimination, and the lingering effects thereof, due to race, gender and

Findings/Observations

Recommendations

3. EDUCATION FOR ALL (Con't)

needs and potential of all other students. (5)

other such irrelevant factors must be eradicated completely from the American educational system. "Excellence and elitism are not synonymous." (5)

- ° Not until this century have we undertaken to give 12 years of schooling to all our children...

A part of our population ...has harbored the opinion that many of the nation's children are not fully educable.

There are no unteachable children. There are only schools and teachers and parents who fail to teach them. (11)

4. GRADUATION REQUIREMENTS

- ° A 1980 state-by-state survey of high school diploma requirements reveals that only 8 states require high schools to offer foreign language instruction, but none requires students to take the courses. 35 states require only 1 year of mathematics, and 36 require only 1 year of science for a diploma. (1)

- ° In 13 states, 50% or more of the units required for high school graduation may be electives chosen by the student. (1)

- ° We recommend that state and local high school graduation requirements be strengthened and that, at a minimum, all students seeking a diploma be required to lay the foundations in the Five New Basics by taking the following curriculum during their 4 years of high school: (a) 4 years of English; (b) 3 years of mathematics; (c) 3 years of science; (d) 3 years of social studies; and (e) 1 year of computer science. For the college-bound, 2 years of foreign language in high school are strongly recommended in addition to those taken earlier. Whatever the student's educational or work objectives, knowledge of the New Basics is the foundation of success for the after-school years and, therefore, forms the core of the modern curriculum. A high level of shared education in these Basics,

Findings/Observations

Recommendations

4. GRADUATION REQUIREMENTS (Con't)

- ° In many schools, the time spent learning how to cook and drive counts as much toward a high school diploma as the time spent studying mathematics, English, chemistry, U.S. history, or biology. (1)

together with work in the fine and performing arts and foreign languages, constitutes the mind and spirit of our culture. (1)

- ° All secondary school students should be required to take at least three years of mathematics and of science and technology, including one year of algebra and one semester of computer science. All secondary schools should offer advanced mathematics and science courses. This requirement should be in place by September 1, 1985. (5)
- ° Colleges and universities should phase in higher mathematics and science entrance requirements, including 4 years of high school mathematics, including a second year of algebra, coursework covering probability and statistics, four years of high school science, including physics and chemistry, and one semester of computer science. (5)
- ° A majority of the American public would require high school courses in mathematics and English, regardless of whether students plan to continue their education in college or to get jobs following graduation. For those students who plan to go on to college, the public would require courses in history/U.S. government, science, business, and foreign language. For those who plan to end their education with high school, the public would require vocational

Findings/Observations

Recommendations

4. GRADUATION REQUIREMENTS (Con't)

training, business, history/U.S. government, and science. (9)

- ° The number of required courses in the core curriculum should be expanded from one-half to two-thirds of the total units required for high school graduation. (10)
- ° Beyond the formal academic program, the high school should help all students meet their social and civic obligations. During high school, young people should be given opportunities to reach beyond themselves and feel more responsibly engaged. They should be encouraged to participate in the communities of which they are a part. (10)
- ° All high school students should complete a service requirement--a new Carnegie unit--that would involve them in volunteer work in the community or at school. Students could fulfill this requirement evenings, weekends, and during the summer. (10)
- ° Students themselves should be given the responsibility to help organize and monitor the new service program and to work with school officials to assure that credit is appropriately assigned. (10)
- ° Many students find little incentive in hard academic work. Although they want their diplomas, they earn them primarily by doggedly dutiful attendance rather than by an exhibition of mastery of the substance of study. Thus there is little need to suffer the pain of stretching one's mind. (12)
- ° Until mastery of subject matter determines whether or not a diploma is granted, students will see minimal incentives for achieving such mastery. There must be some kind of culminating examination or other exhibition of mastery to place the emphasis of schooling squarely on learning. (Today the emphasis is primarily on dutiful attendance.) (12)

Findings/Observations

Recommendations

1. ENGLISH/LANGUAGE ARTS

- ° Some 23 million American adults are functionally illiterate by the simplest tests of everyday reading, writing, and comprehension. (1)
- ° College Board achievement tests reveal consistent declines in recent years in English. (1)
- ° Only one-fifth of the 17-year-olds can write a persuasive essay. (1)
- ° Nearly 40% of the 17-year-olds cannot draw inferences from written material. (1)
- ° Because of poor management of classroom time, some elementary students receive only one-fifth of the instruction others receive in reading comprehension. (1)
- ° Thirteen percent of our 17-year-old students cannot perform reading tasks considered to be minimal for functional literacy. (2)
- ° 28% cannot answer questions testing their literal comprehension of what they read. (2)
- ° 53% of 17-year-olds cannot write a letter correcting a billing error. (2)
- ° Only 21% could write a persuasive statement in 1974. By 1979, the percentage showing adequate competency on this test had dropped to 15%. (2)
- ° When students who have dropped out of school before reaching age 17 are tested, the percentages of poor performers are even higher. (2)
- ° State and local high school graduation requirements should include four years of English.(1)
- ° The teaching of English in high school should equip graduates to: (a) comprehend, interpret, evaluate, and use what they read; (b) write well-organized, effective papers; (c) listen effectively and discuss ideas intelligently; and (d) know our literary heritage and how it enhances imagination and ethical understanding, and how it relates to the customs, ideas, and values of today's life and culture. (1)
- ° (Specific language arts and reading competencies recommended by the Task Force (2) and the College Board (3) are located in the appendix.)
- ° The Task Force recommends that the federal government clearly state that the most important objective of elementary and secondary education

Findings/Observations

Recommendations

1. ENGLISH/LANGUAGE ARTS (Con't)

in the U.S. is the development of literacy in the English language. (7)

- ° Elementary schools should build on the remarkable language skills a child already has acquired. In the early grades, students should learn to read and comprehend the main ideas in a written work, write standard English sentences, and present their ideas orally. (10)
- ° The English proficiency of all students should be formally assessed before they go to high school. A pre-high-school summer term and a freshman-year remediation program should be provided for students who are deficient in the use of English. (10)
- ° Clear writing leads to clear thinking; clear thinking is the basis of clear writing. Therefore, all high school students should complete a basic English course with emphasis on writing. Enrollment in such classes should be limited to 20 students, and no more than two such classes should be included in the teacher's regular load. (10)
- ° The high-school curriculum should also include a study of the spoken word. Speaking and listening are something more than the mere exchange of information. Communication at its best should lead to genuine understanding. (10)
- ° All students, through a study of literature, should discover our common literary heritage and learn about the power and beauty of the written word. (10)
- ° All students, during their senior year, should complete a Senior Independent Project, a written report that focuses

II. CURRICULUM

B. Subject Areas/Competencies

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Findings/Observations

Recommendations

1. ENGLISH/LANGUAGE ARTS (Con't)

on a significant social issue and draws upon the various fields of study in the academic core. (10)

- ° Language arts is one of the subject areas indispensable to basic schooling. (11)
- ° It is more and more apparent that young high school--even college--graduates cannot write acceptable English or even do simple arithmetic. For the first time in American history the generation moving into adulthood is less skilled than its parents. (15)

2. MATHEMATICS

- ° In many other industrialized nations, courses in mathematics (other than arithmetic or general mathematics), biology, chemistry, physics, and geography start in grade 6 and are required of all students. The time spent on these subjects, based on class hours, is about three times that spent by even the most science-oriented U.S. students, i.e., those who select 4 years of science and mathematics in secondary school. We offer intermediate algebra, but only 31% of our recent high school graduates complete it. Calculus is available in schools enrolling about 60% of all students, but only 6% of all students complete it. (1)
- ° Only 1/3 of the 17-year-olds can solve a mathematics problem requiring several steps. (1)
- ° 35 states require only one year of mathematics to graduate. (1)
- ° State and local high school graduation requirements should include three years of mathematics. (1)
- ° The teaching of mathematics in high school should equip graduates to: (a) understand geometric and algebraic concepts; (b) understand elementary probability and statistics; (c) apply mathematics in everyday situations; and (d) estimate, approximate, measure, and test the accuracy of their calculations. In addition to the traditional sequence of studies available for college-bound students, new, equally demanding mathematics curricula need to be developed for those who do not plan to continue their formal education immediately. (1)

Findings/Observations

Recommendations

2. MATHEMATICS (Con't)

- ° Despite recent increases in mathematics and computer science enrollments, half of all high school graduates take no mathematics or science beyond the tenth grade. (2)
- ° Between 1960-1977, the proportion of high school students enrolled in mathematics courses declined. (2)
- ° Mathematics is taught less than 4 hours per week in many elementary classrooms. (2)
- ° There were declines in the percentages of high school students completing Algebra I (76-64%), Geometry (51-44%), and Algebra II (35-31%). (5)
- ° Between the 1973 and 1982 National Assessments of Mathematics mean achievement scores of 17-year-olds declined 3.2%. (5)
- ° Only 38% of high school students complete three years of mathematics as compared to 100% of other countries. (5)
- ° In the first international mathematics survey in 1964, the achievement scores of U.S. students tended to be the lowest in mathematics, particularly the 18-year olds. (5)
- ° The top students in Japan and the U.S. score equally well in mathematics and science achievement. But the remaining 90% of Japanese students do far better than their American counterparts. (5)
- ° During the day Japanese children spend 2/3 or more of their time on academic subjects. Over 12 years of schooling they average 26% of their time on
- ° (Specific mathematic competencies recommended by the Task Force (2) and those recommended by the College Board (3) are located in the appendix.)
- ° Top priority must be placed on proceeding earlier, increased and more effective instruction in mathematics, science and technology in grades K-6. (5)
- ° Considerably more time should be devoted to mathematics, science and technology throughout the elementary and secondary grades. (5)
- ° All secondary school students should be required to take at least 3 years of mathematics and of science and technology, including one year of algebra and one semester of computer science. All secondary schools should offer advanced mathematics and science courses. This requirement should be in place by September 1, 1985. (5)
- ° College-bound students should complete four years of mathematics including a second year of algebra and course-work covering probability and statistics. (5)

II. CURRICULUM

B. Subject Areas/Competencies

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Findings/Observations

Recommendations

2. MATHEMATICS (Con't)

mathematics and science. Their American counterparts spend far less time on these subjects from the first grade on. (5)

- ° The present emphasis should be upon mathematics, science, engineering, and foreign language skills. (6)
- ° The federal government should provide "advanced" training in mathematics for secondary school students. (7)
- ° In high school, all students should expand their capacity to think quantitatively and to make intelligent decisions regarding situations involving measurable quantities. Specifically, we believe that all high schools should require a two-year mathematics sequence for graduation and that additional courses be provided for students who are qualified to take them. (10)
- ° Mathematics is one of the subject areas indispensable to basic schooling. Instruction in mathematics, beginning with simple arithmetic in the first grade, should rise to at least one year of calculus. It should be integrated from the very beginning with instruction in the use of calculators and lead subsequently to at least introductory instruction in the use of, and programming for, computers. (11)

3. SCIENCE

- ° Educational researcher Paul Hurd concluded at the end of a thorough national survey of student achievement, that within the context of the modern
- ° State and local high school graduation requirements should include three years of science. (1)

II. CURRICULUM

B. Subject Areas/Competencies

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Findings/Observations

Recommendations

3. SCIENCE (Con't)

scientific revolution, "We are raising a new generation of Americans that is scientifically and technologically illiterate." (1)

- ° John Slaughter, a former Director of the National Science Foundation, warned of "a growing chasm between a small scientific and technological elite and a citizenry illinformed, indeed uninformed, on issues with a science component." (1)
- ° There was a steady decline in science achievement scores of U.S. 17-year-olds as measured by national assessments of science in 1969, 1973, and 1977. (1)
- ° College Board achievement tests reveal consistent declines in recent years in physics. (1)
- ° In many other industrialized nations, courses in mathematics (other than arithmetic or general mathematics), biology, chemistry, physics, and geography start in grade 6 and are required of all students. The time spent on these subjects, based on class hours, is about three times that spent by even the most science-oriented U.S. students, i.e., those who select 4 years of science and mathematics in secondary school. (1)
- ° 36 states require only one year of science for a diploma. (1)
- ° There were declines in the percentages of high school students completing biology (80-77%), chemistry (34-32%), and general science (61-37%). (5)

- ° The teaching of science in high school should provide graduates with an introduction to: (a) the concepts, laws, and processes of the physical and biological sciences; (b) the methods of scientific inquiry and reasoning; (c) the application of scientific knowledge to everyday life; and (d) the social and environmental implications of scientific and technological development. Science courses must be revised and updated for both the college-bound and those not intending to go to college. An example of such work is the American Chemical Society's "Chemistry in the Community" program. (1)
- ° (Specific competencies in science recommended by the Task Force (2) and the College Board (3) are located in the appendix.)
- ° Top priority must be placed on providing earlier, increased and more effective instruction in mathematics, science and technology in grades K-6. (5)

II. CURRICULUM
B. Subject Areas/Competencies

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Findings/Observations

Recommendations

3. SCIENCE (Con't)

- ° Between 1970 and 1983, the National Assessments of Science mean achievement scores of 17-year-olds declined 6.7%. (5)
- ° Only 23% of U.S. high school students take three years of science as compared to 100% in other countries. (5)
- ° In the first international science survey in 1970-71, the achievement scores of U.S. students tended to be the lowest in science, particularly the 18-year-olds. (5)
- ° The top students in Japan and the U.S. score equally well in mathematics and science achievement, but the remaining 90% of Japanese students do far better than their American counterparts. (5)
- ° During the day Japanese children spend 2/3 or more of their time on academic subjects. Over 12 years of schooling they average 26% of their time on mathematics and science. Their American counterparts spend far less time on these subjects from the first grade on. For example, in the primary grades, U.S. students average less than 20 minutes a day on science. In terms of class hours, a typical Japanese secondary school graduate will spend three times the number of hours in science than even those U.S. students who elect four years of science in high school. (5)
- ° Considerably more time should be devoted to mathematics, science and technology throughout the elementary and secondary grades. (5)
- ° All secondary school students should be required to take at least three years of mathematics and of science and technology, including one year of algebra and one semester of computer science. All secondary schools should offer advanced mathematics and science courses. This requirement should be in place by September 1, 1985. (5)
- ° College-bound students should complete four years of science, including physics and chemistry. (5)
- ° The present emphasis should be upon mathematics, science, engineering, and foreign language skills. (6)
- ° The Task Force recommends that the federal government emphasize programs to develop basic scientific literacy among all citizens and to provide advanced training in science for secondary school students. (7)

II. CURRICULUM
B. Subject Areas/Competencies

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Findings/Observations

Recommendations

3. SCIENCE (Con't)

- ° The study of science introduces students to the processes of discovery--what we call the scientific method--and reveals how such procedures can be applied to many disciplines and to their own lives. We suggest a two-year science sequence that would include basic courses in the biological and physical sciences. (10)
- ° Science is one of the subject matter areas indispensable to basic schooling. Instruction in the natural sciences includes physics, chemistry, and biology. (11)
- ° Science and math programs in U.S. schools lag behind the U.S.S.R., Japan, and Germany. (15)
- ° A 1980 report by the U.S. Department of Education and the National Science Foundation stated that most Americans are moving toward "virtual scientific and technological illiteracy." (15)

4. TECHNOLOGY/COMPUTERS

- ° Computers and computer-controlled equipment are penetrating every aspect of our lives--homes, factories, and offices. (1)
- ° State and local high school graduation requirements should include one-half year of computer science. (1)
- ° The teaching of computer science in high school should equip graduates to: (a) understand the computer as an information, computation, and communication device; (b) use the computer in the study of the other basics and for personal and work-related purposes; and (c) understand the world of computers, electronics, and related technologies. (1)

II. CURRICULUM

B. Subject Areas/Competencies

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Findings/Observations

Recommendations

4. TECHNOLOGY/COMPUTERS (Con't)

- ° The advance of technology will greatly affect job opportunities and job requirements. Jobs which offer upward mobility will increasingly be those which require the creative use of technology. (2)

(Specific computer technology competencies recommended by the Task Force (2) are located in the appendix.)

- ° Top priority must be placed on providing earlier, increased and more effective instruction in mathematics, science and technology in grades K-6. (5)
- ° All secondary school students should be required to take at least three years of science and technology, including one semester of computer science. This requirement should be in place by September 1, 1985. (5)
- ° All students should study technology: the history of man's use of tools, how science and technology have been joined, and the ethical and social issues technology has raised. (10)
- ° Schools should relate computer resources to their educational objectives. Specifically, all students should learn about computers; learn with computers; and, as an ultimate goal, learn from computers. The first priority, however, should not be hands-on experience, but rather educating students about the social importance of technology of which the computer is a part. (10)
- ° 75% of all jobs by 1985 will involve computers in some way--and people who don't know how to use them will be at a disadvantage. (15)

II. CURRICULUM

B. Subject Areas/Competencies

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Findings/Observations

Recommendations

4. TECHNOLOGY/COMPUTERS (Con't)

- ° The National Council of Teachers of Mathematics has said "computer literacy is an essential outcome of contemporary education. Each student should acquire an understanding of the versatility and limitations of the computer through first-hand experience in a variety of fields." (15)
- ° Key to expansion of education in the next 50 years will be the computer. (16)
- ° The hope for the future is that as the opportunities for lifelong learning expand, computer literacy will become a basic right for all Americans. (16)

5. REASONING/THINKING

- ° Many 17-year-olds do not possess the "higher order" intellectual skills we should expect of them. Nearly 40% cannot draw inferences from written material; only 1/5 can write a persuasive essay; and only 1/3 can solve a mathematical problem requiring several steps. (1)
- ° Overall performance in higher-order skills--inference, analysis, interpretation and problem-solving skills--declined in the seventies. The largest drop-offs in achievement occurred in the most able students. This suggests that we may be regressing from the standard of literacy which was considered adequate 15 years ago at precisely the moment when global economic competition and technological change in the workplace are challenging us to upgrade our standards. (2)
- ° (Specific reasoning competencies recommended by the Task Force (2) and the College Board (3) are located in the appendix.)

II. CURRICULUM
B. Subject Areas/Competencies

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Findings/Observations

Recommendations

5. REASONING/THINKING (Con't)

- ° Higher-order thinking skills--reasoning, imagining, analyzing, synthesizing--are the core of senior high school work, and they are learned through confrontation, through dialog. (12)
- ° The focus will be on reasoning, with emphasis on the basic subjects of math, chemistry, physics and English. (16)

6. SOCIAL STUDIES, CITIZENSHIP, HUMANITIES, ETC.

- ° We offer geography, but only 16% of high school students complete it. (1)
- ° In many other industrialized nations, geography is required of all students beginning at grade 6. (1)
- ° State and local high school graduation requirements should include three years of social studies. (1)
- ° The teaching of social studies in high school should be designed to enable students to: (a) fix their places and possibilities within the larger social and cultural structure; (b) understand the broad sweep of both ancient and contemporary ideas that have shaped our world; and (c) understand the fundamentals of how our economic system works and how our political system functions; and (d) grasp the difference between free and repressive societies. An understanding of each of these areas is requisite to the informed and committed exercise of citizenship in our free society. (1)

(Specific social studies competencies recommended by the College Board (3) are located in the appendix.)

Findings/Observations

Recommendations

6. SOCIAL STUDIES, CITIZENSHIP, HUMANITIES, ETC. (Con't)

- ° United States history is required for graduation from every one of the high schools included in our study, and it is the one social-studies course uniformly required by most states. We favor a one-year United States history course that would build on the chronology of the emergence of America, including a study of the lives of a few influential leaders--artists, reformers, explorers (including minorities and women) who helped shape the nation. Beyond American history lies the long sweep of Western Civilization. We recommend that all students learn about the roots of our national heritage and traditions through a study of Western Civilization. All students should discover the connectedness of the human experience and the richness of other cultures through an in-depth study of a non-Western nation. We suggest a one-semester required course in which students study, in considerable detail, a single non-Western nation. (10)
- ° A course in American government--traditionally called civics--should be required of all students, with focus on the traditions of democratic thought, the shaping of our own governmental structures, and political and social issues we confront today. (10)
- ° Social studies is one of the subject areas indispensable to basic schooling. History and geography are to be understood as including knowledge of human and social affairs, not only within the boundaries of our own nation, but with regard to the rest of the world. (11)

II. CURRICULUM

B. Subject Areas/Competencies

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Findings/Observations

Recommendations

7. FOREIGN LANGUAGE

- ° A 1980 state-by-state survey of high school diploma requirements reveals that only 8 states require high schools to offer foreign language instruction, but none requires students to take the courses. (1)
- ° We offer French I, but only 13% complete it. (1)
- ° If our sample of schools is at all representative, then those persons who believe foreign languages occupy only a small place in secondary school curriculum are correct. (5)
- ° Those respondents who would require a foreign language were asked, which foreign language(s)? The preferred language, by a large margin, is Spanish, followed by French and German, in that order. A surprising number of parents with children in school (12%) would require that the Russian language be taught. (9)
- ° For the college-bound, two years of foreign language in high school are strongly recommended in addition to those taken earlier. (1)
- ° Achieving proficiency in a foreign language ordinarily requires from 4 to 6 years of study and should, therefore, be started in the elementary grades. (1)
- (Specific competencies for foreign languages recommended by the College Board (3) are located in the appendix.)
- ° The present emphasis should be upon mathematics, science, engineering and foreign language skills. (6)
- ° This Task Force wants every American public-school student to have the opportunity to acquire proficiency in a second language. (7)
- ° All students should become familiar with the language of another culture. Such studies should ideally begin in elementary school and at least two years of foreign-language study should be required of all high-school students. By the year 2000, the U.S. could be home to the world's fifth largest population of persons of Hispanic origin. It does seem reasonable for all schools in the U.S. to offer Spanish. (10)

II. CURRICULUM

B. Subject Areas/Competencies

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Findings/Observations	Recommendations
7. <u>FOREIGN LANGUAGE</u> (Con't)	° In addition to competence in the use of English as everyone's primary language, basic schooling should confer a certain degree of facility in the use of a second language. That second language should be open to elective choice. (11)
8. <u>VOCATIONAL EDUCATION/JOB SKILLS/ECONOMICS</u>	
° By the turn of the century millions of jobs will involve laser technology and robotics. (1) ° Technology is radically transforming occupations. They include health care, medical science, energy production, food processing, construction, and the building, repair, and maintenance of sophisticated scientific, educational, military, and industrial equipment. (1)	° Offer programs requiring rigorous effort in occupational goals and vocational education. (1) ° (Specific competencies for employment and economics recommended by the Task Force (2) are located in the appendix.) ° It is critical that education and training be linked to jobs. (4)
° Schools connect poorly with the outside world. Traditional vocational and technical education has been devastatingly challenged, but still it goes on largely unaffected by the evidence of its malfunctions. The connection between non-school technologies, such as television and computers, and the schools is at best rudimentary. The fact that most high school students hold jobs during the school year is ignored or cursed but rarely used constructively. (5)	° The way to connect the world of school and the world outside of school is to make thoughtful use of the latter bear usefully on the former. If a high school diploma is awarded as a validation of a student's mastery, then how that learning is mastered is not very important. It could be learned at home or on the job as well as in class. Adolescents can and will learn much from the tumble of information and experience that pervades modern life. Schools should seize upon the best of that learning and give incentives to students to use their out-of-school opportunities in ways that help them learn still more. (5)

II. CURRICULUM

B. Subject Areas/Competencies

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Findings/Observations

Recommendations

8. VOCATIONAL EDUCATION/JOB SKILLS/ECONOMICS (Con't)

- ° The specialized or particularized job training at the level of basic schooling is the reverse of something practical and effective in a society that is always changing and progressing. Anyone so trained will have to be retrained for a particular job. (9)
- ° The one-semester study of work we propose would ask how attitudes toward work have changed through the years. How do they differ from one culture to another? What determines the status and rewards to different forms of work? Such a curriculum might also include an indepth investigation of one specific occupation. (10)
- ° As compared with narrow, specialized training for particular jobs, general schooling is of the greatest practical value. (11)
- ° Schools should eliminate from the curriculum all training for specific jobs. (11)
- ° An auxiliary subject provides instruction in a variety of manual arts for a number of years, but not all twelve. (11)

II. CURRICULUM

B. Subject Areas/Competencies

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Findings/Observations

Recommendations

8. VOCATIONAL EDUCATION/JOB SKILLS/ECONOMICS (Con't)

- ° An introduction to the world of work and its range of occupations and careers should be offered during the last two of the twelve years. (11)
- ° The rather high importance given to vocational goals in the state documents appears to be paralleled by considerable attention to vocational education at the junior high level and much more attention in the senior high programs. In senior high, this emphasis appears to be somewhat at the expense of academic subjects and the intellectual emphasis desired by many parents of teenage students. (12)
- ° Vocational courses commonly neglected those traits of mind and character we tend to associate with vocational and economic competence in favor of more immediately applicable job-oriented skills of limited transfer value. And we found little or nothing in our data to suggest that all students, including the college-bound, would have experience with activities designed to develop either "household skills" or some association likely to provide lifelong enjoyment. (12)
- ° Fewer teenagers will be working, as the demand for higher skill levels requires additional years in training and education. (16)
- ° Career changes will become more frequent as jobs grow more complex. Training and retraining will be a lifelong process. (16)
- ° With so much information stored in computers--rather than in workers' heads--employees will be valued not for possessing information but for their ability to analyze and use it. (16)

II. CURRICULUM

B. Subject Areas/Competencies

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Findings/Observations

Recommendations

9. STUDY/LEARNING SKILLS

- ° In most schools, the teaching of study skills is haphazard and unplanned. Consequently, many students complete high school and enter college without disciplined and systematic study habits. (1)
- ° Schools are not doing enough to help students develop either the study skills required to use time well or the willingness to spend more time on school work. (1)
- ° In imparting the skills of analysis and problem solving that constitute "learning-to-learn" skills--that is where our schools face their greatest need for improvement. (2)
- ° Instruction in effective study and work skills, which are essential if school and independent time is to be used efficiently, should be introduced in the early grades and continued throughout the student's schooling. (1)
- ° (Specific competencies for study skills recommended by the College Board (3) are located in the appendix.)
- ° Schools should motivate students to keep their minds actively engaged in learning. Schooling should open the doors to the world of learning and provide the guidelines for exploring it. (11)
- ° A central goal of schooling is for students to be able to teach themselves and to wish to do so. (We forget most of the facts we learn in schools; what stays with us, if we're lucky, is the knowledge of how to gain knowledge.) The way one learns to teach oneself is to practice doing it and to have that practice critiqued. This absolutely requires serious independent work (homework) and time available both for teachers to challenge students' efforts and for students to struggle with this process of learning to learn. (12)

II. CURRICULUM
B. Subject Areas/Competencies

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Findings/Observations

Recommendations

10. FINE ARTS

- ° The high school curriculum should also provide students with programs requiring rigorous effort in subjects that advance students' personal, educational, and occupational goals, such as the fine and performing arts and vocational education. These areas complement the New Basics, and they should demand the same level of performance as the Basics. (1)
- ° (Specific competencies for the arts recommended by the College Board (3) are located in the appendix.)
- ° The arts are an essential part of the human experience. They are not a frill. We recommend that all students study the arts to discover how human beings use nonverbal symbols and communicate not only with words but through music, dance, and the visual arts. (10)
- ° Participation in the creation of works of art is as important as viewing, listening to, and discussing them. All children should have such pleasurable experiences. (11)

11. HEALTH/PHYSICAL EDUCATION

- ° No knowledge is more crucial than knowledge about health. Without it, no other life goal can be successfully achieved. (10)
- ° All students should learn about the human body, how it changes over the life cycle, what nourishes it and diminishes it, and how a healthy body contributes to emotional well-being. (10)
- ° The required course of study also includes a group of auxiliary subjects, of which one is physical education and care of the body. This runs through all twelve years. (11)

II. CURRICULUM

B. Subject Areas/Competencies

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Findings/Observations

Recommendations

12. ELECTIVES

- ° In 13 states, 50% or more of the units required for high school graduation may be electives chosen by the student. Given this freedom to choose the substance of half or more of the education, many students opt for less demanding personal service courses, such as bachelor living. (1)
- ° In addition to traditional school subjects, the public would like the schools to give special instruction in many other fields, presumably because other institutions, including the home, have not been notably successful in dealing with these areas of instruction. This is especially true in the case of education about the abuse of drugs and alcohol. (81% and 76%) (9)
- ° More than seven in 10 adults would require driver education. A majority would also require instruction in the use of computers, as well as training in parenting. (9)
- ° This year's survey included several additional subject areas; all of these except the dangers of nuclear war were approved by a slight majority. They included dangers of nuclear waste, race relations, and communism/socialism. (9)
- ° The "elective cluster" should be carefully designed. Such a program would include advanced study in selected academic subjects, the exploration of a career option, or a combination of both. (10)
- ° In order to offer a full range of elective clusters, the high school must become a connected institution. Upper-level speciality schools (in the arts or science or health or

II. CURRICULUM
B. Subject Areas/Competencies

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Findings/Observations

Recommendations

12. ELECTIVES (Con't)

- ° Elective choices are appropriate only in a curriculum that is intended for different avenues of specialization or different form of preparation for the professions or technical careers. Electives and specialization are entirely proper at the level of advanced schooling--in our colleges, universities, and technical schools. They are wholly inappropriate at the level of basic schooling. (11)

computers, for example) may be appropriate in some districts. High schools should also establish connections with learning places beyond the schools--such as libraries, museums, art galleries, colleges, and industrial laboratories. (10)

- ° All sidetracks, specialized courses, or elective choices must be eliminated. Allowing them will always lead a certain number of students to voluntarily downgrade their own education. (11)

13. EXTRA-CURRICULAR

- ° All activities and interests not included in the program as set forth should be regarded as extracurricular, to be engaged in voluntarily in after-school hours. (11)

II. CURRICULUM
C. Special Populations

1. BILINGUAL/ESL/IMMIGRANTS

- ° Federal funds now going to bilingual programs should be used to teach non-English-speaking children how to speak, read, and write English. (7)
- ° The federal government should promote and support proficiency in English for all children in the public schools, but especially for those who do not speak English, or have only limited command of it. (7)

Findings/Observations

Recommendations

1. BILINGUAL/ESL/IMMIGRANTS (Con't)

- ° "Impact aid," originally aimed at helping cushion the burden imposed on local school facilities by the children of military personnel should be reformulated to focus on school districts that are overburdened by substantial numbers of immigrant children. (7)
- ° Federal attention and assistance should go to depressed localities that have concentrations of immigrant and/or impoverished groups as well as those that are already making strong efforts to improve their educational performance. (7)

2. ECONOMICALLY DEPRIVED

- ° The federal government should continue to provide special educational programs for the poor. (7)

3. GIFTED/TALENTED

- ° Over half the population of gifted students do not match their tested ability with comparable achievement in school. (1)
- ° Each state and local school system must expand its programs or develop new ones to identify academically gifted students early in their school careers and to provide a curriculum that is rigorous and enriching enough to challenge talented, young people. (2)
- ° Every high school should develop special arrangements for gifted students--credit by examination, independent study, and special study with universities. (10)

II. CURRICULUM
C. Special Populations

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Findings/Observations

Recommendations

4. MINORITIES/WOMEN

- ° Since minority students are concentrated in urban schools, and since it is estimated that by 1980 more than 40% of urban students nationwide will be members of minorities, we face a special challenge. (2)
- ° Those students who are now unserved or underserved should be better served. (2)
- ° Because the nation needs to draw upon the broadest base of talent, each state and local school system should make special efforts to increase participation by women and minority students in courses such as mathematics and science that are related to careers in which these groups are under-represented. (2)
- ° Educational results among minority students should be improved so they can increase their representation in the high-skill fields that will provide upward mobility in the future. (2)
- ° The work force of the next century will have a different look. A higher proportion of women will be employed--from 80 to 90%--and dual-career families will be common while sex roles become more interchangeable, both in the workplace and in the home. Blacks, Hispanics and other minority groups will increase their share of jobs. (16)

5. EDUCATIONALLY DEFICIENT/REMEDIAL PROGRAMS

- ° The federal government should establish special federal fellowships for students who repeatedly fail, which would be awarded to school districts to encourage the creation of small, individualized programs staffed by certified teachers and run as small-scale academies. (7)

Findings/Observations

Recommendations

5. EDUCATIONALLY DEFICIENT/REMEDIAL PROGRAMS (Con't)

- ° Federally supported remedial programs--most of which have been concentrated in the early grades--have demonstrated that improvements can be made in the academic achievement of even the most disadvantaged child. Therefore, the federally funded Elementary and Secondary Education Act (Title I) should be fully funded to support all students who are eligible to participate in this effective program. (10)
- ° We once again express our faith that there is no uneducable child--no unteachable child. There are only children that we fail to teach in a way that befits their individual condition. That faith rejects with abhorrence the notion that there are any irremediable deficiencies to block the attainment of the same educational goals for all. (11)
- ° Children who, in one way or another, manifest deficiencies that would result in their not achieving the requisite standard of performance must be given special help to overcome those deficiencies. Such help would be truly remedial--remedying individual deficiencies that can and must be overcome. (11)

6. SPECIAL EDUCATION/HANDICAPPED

- ° Each state and local school system should improve its programs for identifying and educating handicapped children, specifically including them in its goals of education for jobs and economic growth. (2)
- ° The federal government should continue to provide special educational programs for the handicapped. (7)

SUMMARY ANALYSIS OF GOALS AND CURRICULUM

The studies cite a loss of the basic purpose of schools, the absence of clearly-identified goals, and low expectations as major deficiencies in the educational systems across the nation. A call is issued for dialogue and consensus on the full range of commonly accepted goals and new emerging goals to assure excellence in education and sound economic growth in the future. These goals should be clearly articulated and widely communicated so that there will be a broad understanding of the mission of schools.

The broad selection of high school course offerings is considered a weakness since students tend to select less rigorous academic programs. While this may be a problem at the high school level, one study holds that the options available at the college and continuing education levels are a strength--saying that anyone has the opportunity to change the course of his/her life at any point in time. There is always a second chance.

Without exception, the studies focusing on curriculum recommend that standards be raised and that a core of academic subjects be required of all students. Four of the studies make specific recommendations for increasing credits for graduation. There appears to be considerable diversity among the recommendations and some variation in preferred courses to be included within the disciplines.

Each report addresses the fundamental belief that education is for all children. Tracking is brought under condemnation as one of the culprits perpetuating discrimination, and recommendations are set forth to eliminate the source of the problem. The belief that all students should receive a quality education in the United States is forcefully stated in the studies, and a word of caution is issued to enthusiastic reformers to remember this commitment while planning educational programs for the new technological era. The Carnegie report expresses a concern that the gap between the educated haves and the have-nots may increase.

Special populations are seldom addressed as the primary target in the findings or recommendations. One study requests that the federal government redirect funds for bilingual education to the teaching of English. Developing the academic abilities of gifted/talented, minorities, and women is mentioned. Remedial programs for low achievers are recommended in several reports. The handicapped are mentioned only twice.

Subject areas receiving attention in the reports are listed in rank order as follows:

1. Mathematics and Science

The studies recommend higher standards in both areas and special programs to remediate current deficiencies. There is consensus that something must be done and numerous suggestions are offered as to what needs to be done, how to get it done, and who pays. (See Section V)

2. Technology and Foreign Language

Consensus is confirmed on the need for computer literacy with two studies recommending that one-half credit be required for graduation. A minimum of two years of a foreign language is recommended for graduation by two groups.

3. English/Language Arts

The emphasis is on communication skills for the information era. Two reports request a national commitment to teaching the English language. Skills pertaining to managing massive amounts of information intelligently and efficiently is a new goal demanding attention.

4. Reasoning/Thinking Skills

Reasoning/thinking skills are identified as an area for special emphasis since these skills cut across all disciplines and are critical to the science, mathematics, technology and communication areas.

5. Vocational Education/Job Skills

Most of the studies focus on developing skills that will accommodate the worker who will hold several different jobs in more than one occupation during a lifetime. Other reports hold that job skills should be directed toward current occupations. The broad-base approach has major implications for vocational programs.

6. Study Skills/Learning Skills

Study skills grow into learning skills. Learning skills prepare students to become independent learners. Independent learners develop lifelong learning skills and continue to educate themselves or seek opportunities to learn for life. Lifelong learning skills are mentioned as a goal for education in four of the major reports.

7. Social Studies/Citizenship

This is the territory over which the troops have trod in past decades. The battleground continually shifts between the basics and higher academics. Society is reminded that mankind must remain civil while moving from one pole or another. The humanities are necessary, but not in vogue.

8. Fine Arts and Health/Physical Education

These receive honorable mention.

The reports seem to continue to show some consensus on the need for higher standards and expectations. They vary considerably on the specific curriculum content. If the reports are to be more than just an exercise of examination and probing, someone must set some common standards, goals and content expectations. The most basic question seems to concern who will have responsibility for this task.

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			MANAGEMENT										EVALUATION										HIGHER EDUCATION						
NATIONAL STUDIES			III. TEACHING-LEARNING																						Totals				
			Organization	Class Time	School Day/Year	Ext. Instructional Time	Homework	Quality of Classwork	School Climate	Teaching Practices	Inst. Materials/Textbooks	High-Tech Methods	Discipline	Attendance	Dropouts	Testing/Guidance	Achievement	Minimum Competency	Grades	Promotion	Competence of Graduates	Attitude Toward College	Admission Standards	Remedial Courses	Programs	Competence of Graduates	Adult-Lifetime Education		
1	A Nation at Risk	NCEE	*	*		*				*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*		16
2	Action for Excellence	ECS	*	*	*	*	*			*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*		17
3	Academic Prep.	COL.BD					*								*				*	*	*	*	*	*	*	*		4	
4	Bldg. Partnerships	PSI																											
5	Ed.Adm. 21st Cen.	NSF	*	*	*	*	*		*	*	*	*	*	*				*	*	*	*	*	*	*	*	*	*	14	
6	Ed.&Eco.Pr.,Fed.Role	LCEEG																											
7	Fed.El.& Sec. Ed.	20TH C.																											
8	Federal Role	NSBA																											
9	Gallup Poll	PDK		*		*				*	*		*	*				*	*	*	*	*	*	*	*	*	*	7	
10	High School's	CARNEGIE	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	18	
11	Paideia Proposal	ADLER	*	*		*	*	*	*		*											*	*	*	*	*	*	10	
12	Study of H.Schools	NASSP	*	*		*	*	*	*									*	*	*	*	*	*	*	*	*	*	7	
13	Study of Schools	GOODLAD	*			*	*	*	*					*	*												7		
14	Too Soon to Cheer?	EF.S.RES.	*			*	*	*	*		*			*	*												6		
FUTURES REPORTS																													
15	Megatrends	NAISBITT										*		*		*	*	*	*	*	*	*	*	*	*	*	*	4	
16	US News & World Report		*					*		*												*	*	*	*	*	5		
STATE REPORTS																													
17	Final Recommendations	MSBE	*								*																2		
18	Policy Statement	TSBE							*	*	*	*		*	*		*	*	*	*	*	*	*	*	*	*	7		
TOTAL			7	7	5	3	6	8	4	7	6	6	9	5	4	7	6	4	3	5	6	1	5	3	2	1	4	124	

Findings/Observations

Recommendations

1. ORGANIZATION

- o The urgent need is not more time but better use of time. (10)
- o High schools do not carry on their work in isolation. They are connected to elementary and junior high schools and to higher education. In the end, the quality of the American high school will be shaped in large measure by the quality of these connections. (10)
- o Schools should examine each school year, especially the twelfth grade year, to ensure that time is not wasted. And existing learning time should be made more effective in other ways as well: through the use of student "mentors," for example. (2)
- o Class sizes must be limited. (2)
- o The class schedule should be more flexibly arranged to permit larger blocks of instructional time, especially in courses such as laboratory science, foreign language, and creative writing. (10)
- o Small high schools should expand their education offerings by using off-campus sites or mobile classrooms or part-time professionals to provide a richer education for all students. (10)
- o Large high schools, particularly those with over 2,000 students, should organize themselves into smaller units--"schools-within-schools"--to establish a more cohesive, more supportive social setting for all students. (10)
- o All states should establish a School-College Coordination Panel to define the recommended minimum academic requirements to smooth the transfer from school to public higher education. (10)
- o Every high school in the nation should offer a "university in the school" program and a variety of other arrangements--credit by examination, early admission, and advanced placement--to permit able students to accelerate their academic programs. (10)

III. THE TEACHING-LEARNING PROCESS
A. Management

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Findings/Observations

1. ORGANIZATION (Cont'd)

- o Time on task is important for all students and personal attention to each student pays great dividends. However, most high school teachers deal with well over a hundred young people daily, in groups that gather for less than an hour. In such circumstances, only an exceptional instructor can come anywhere near individualizing instruction. (12)

Recommendations

- o Each college or university should form a comprehensive partnership with one or more secondary schools. (10)
- o A network of Residential Academies in Science and Mathematics should be established across the nation. Some academies might be within a densely populated district. Others might serve an entire state. A residential school may serve several states. Academies might be located on college campuses. Such schools should receive federal support since clearly the vital interests of the nation are at stake. (10)
- o Teaching by discussion calls for more than a fifty-minute class period. It also calls for a room in which the participants in the discussion sit around a table instead of in rows. The teacher is one of the participants, not the principal performer standing up in front of the group. (11)
- o Teachers cannot provide the kind of teaching required to help students learn higher-order thinking skills in groups of 30 or more and with overall teaching loads of 130 to 175 students. A practical way to reduce these loads somewhat is for a greater percentage of the school staff to teach and for each teacher to become less specialized. Students will learn more if they are taught English and social studies by the same teacher than if they are taught by separate specialists. A single teacher has to work with about 80 students; two specialists must try to know 160 each. (12)

Findings/Observations

Recommendations

1. ORGANIZATION (Cont'd)

o The academic reward system revolves around time, with quicker being better. "Ahead of grade level" is absolutely preferred to solid, ultimate mastery. This grade-level tracking system and the remarkably uniform pedagogies that accompany it exist despite the overwhelming evidence of both behavioral science and common observation that all of us learn at different rates, at different times, and in different ways and that, if these learning rates and learning styles are accommodated, most students can master the material that the typical high school places before them. (12)

o The priority given to the ability to read, write, and handle basic arithmetical operations and the subjects presumed to develop these abilities is reflected in the schools of our sample, when the data for our schools are averaged. They devoted, according to the teachers surveyed, approximately 54% of the weekly instructional time to reading, language arts, and mathematics at the elementary level. On the average, the junior highs allocated a total of 39% of the courses and teachers to English and mathematics; the senior highs an average total of 31%. (13)

o Age-grading must cease, and students must be allowed to progress at their own rates. Adult attitudes about "where a student should be" will also have to change; the assumption must always be that mastery is not only possible but expected. We will need to adapt instruction to students' differing learning styles. (12)

o Any significant change in structure and procedure that is proposed must usually be vetoed on practical grounds; it disturbs too many things. Or it is spun off as an "alternative" program, in effect a school-within-a-school with its own structure. In these purposeful, pessimistic 1980s, when orderliness is a cardinal virtue, these alternatives are all too rare.

Thus things remain the same because it is impossible to change very much without changing most of everything. The result is paralysis. (12)

o I envision schools organized into four-year units of not more than 100 students each at the elementary level and not more than 160 students each at the secondary level. A team of adults (the numbers based on an affordable ratio of teachers to students) guides the learning of this group over the four-year period, getting to know one another very well in the process. (13)

III. THE TEACHING-LEARNING PROCESS

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A. Management

Findings/Observations

Recommendations

1. ORGANIZATION (Cont'd)

- o Students are relegated to a passive stance in the vital business of their own school-based learning; classes and teachers are not, to them, the most important part of the school culture. In the classroom, they learn alone in groups. (13)
- o Even if the staff members and the principal should begin to work together to solve schoolwide problems, the structure of the school serves as a powerful force to maintain the status quo in classrooms. (13)
- o From computer lessons in kindergarten to graduate degrees for the elderly, education over the next 50 years will become a lifelong pursuit.

While institutions called schools will remain places for children to learn basic skills, electronic communications will bring knowledge to people at every age wherever they are--at home, on the job, by a hospital bed, in the car, as well as in a traditional classroom. "People will be able to say, 'I'll learn where and when I want.'" (16)

2. CLASS TIME

- o A California study of individual classrooms found that because of poor management of classroom time, some elementary students received only 1/5 of the instruction others received in reading comprehension. (1)

- o Benjamin Bloom's studies of highly talented individuals reveal the powerful reinforcing effect of association with talented peers. Why do we not only neglect but virtually eliminate the possibility of such peer teaching in schools? (13)

- o The time available for learning should be expanded through better classroom management and organization of the school day. (1)

- o Additional time should be found to meet the special needs of slow learners, the gifted, and others who need more instructional diversity than can be accommodated during a conventional school day or school year. (1)

A. Management

Findings/Observations

Recommendations

2. CLASS TIME (Cont'd)

- o In most industrialized nations, the amount of classroom time devoted to core academic subjects is several times greater than the time spent in our schools. Students in these countries are introduced earlier than our young people to reading, mathematics and science. (2)
- o The average length of the school day in the U.S. is 5½ hours, whereas it ranges from 6 to 8 hours in the other countries. (5)
- o In Japan, more time is spent with after school tutoring and homework than in the U.S. (5)
- o Students entering high school unable to read, write and cipher adequately will have to concentrate exclusively on these subjects. These are the foundations of secondary school work, and, until they are mastered, studying much else is wasteful. (12)
- o Considerably more time should be devoted to mathematics, science and technology throughout the elementary and secondary grades. This will require that the school day, week and/or year be substantially lengthened. (5)
- o Local school districts should revise their elementary school schedules to provide consistent and sustained attention to mathematics, science and technology; a minimum of 60 minutes per day of mathematics and 30 minutes per day of science in grades K-6; a full year of mathematics and science in grades 7 and 8. (5)
- o Teachers will need substantial time to work with these youngsters, as the students almost certainly will be demoralized and ready to fail. (12)

3. SCHOOL DAY/WEEK/YEAR

- o A study of the school week in the U.S. found that some schools provided students only 17 hours of academic instruction during the week, and the average school provided about 22. (1)
- o We recommend that significantly more time be devoted to learning the New Basics. This will require more effective use of the existing school day, a longer school day, or a lengthened school year. (1)

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A. Management

Findings/Observations

Recommendations

3. SCHOOL DAY/WEEK/YEAR (Cont'd)

- o In England and other industrialized countries, it is not unusual for academic high school students to spend 8 hours a day at school, 220 days per year. In the U.S., by contrast, the typical school lasts 6 hours and the school year is 180 days. (1)
 - o In many other industrialized nations, courses in mathematics, biology, chemistry, physics, and geography start in grade 6 and are required of all students. The time spent on these subjects, based on class hours, is about three times that spent by even the most science-oriented U.S. students, i.e., those who select 4 years of science and mathematics in secondary school. (1)
 - o Another priority related to curriculum improvement must be to increase instructional time in key academic subjects: The typical elementary school week comprises 25 instructional hours. During these 25 hours, only one hour of science is taught in many schools across the nation--and less than four hours of arithmetic. (2)
 - o In most of the industrialized countries, the school year is considerably longer than in the U.S.--often 240 days or longer, compared to an average of 180 days in our country. School days are longer, exposure to core academic subjects is greater and time-on-task exceeds that in U.S. schools. As a result, after 12 years of schooling, students in other advanced nations may have the equivalent of 4 full
- o Every state should increase both the duration and the intensity of academic learning time in its schools. (2)
 - o Using the existing school year and the existing school day to the fullest must be emphasized first. But the states and local school systems should also consider lengthening the school year and the school day. (2)
 - o Learning time should be increased by establishing a wider range of learning opportunities beyond the normal school day and school year: summer institutes and after-school enrichment programs sponsored by business, for example.

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A. Management

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Findings/Observations

Recommendations

3. SCHOOL DAY/WEEK/YEAR (Cont'd)

years more schooling than American high school graduates--in a curriculum that is more demanding than the typical American school's course offerings. (2)

- o Japanese students attend school 220 days a year. American students go to school 180 days a year (and are absent more often than the Japanese). (5)
- o Although more individuals oppose (49%) than approve (40%) increasing the length of the school year in their communities by one month, more respondents favor a 10-month school year in this year's survey (40%) than in last year's (37%). Moreover, those who were familiar with the report of the National Commission on Excellence in Education are strongly in favor of such a change. More of those parents with children in nonpublic schools (50%) approve than disapprove (44%) of extending the school year. Individuals who have no children attending school show the least enthusiasm (39%) for increasing the school year from the present 180 days. (9)
- o The same general pattern of opinion regarding the lengthening of the school year by one month is found when respondents are asked about lengthening the school day by one hour. (9)

4. EXTENDED INSTRUCTIONAL TIME

- o Top priority must be placed on providing earlier, increased and more effective instruction in mathematics, science and technology in grades K-6. (5)

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A. Management

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Findings/Observations

Recommendations

4. EXTENDED INSTRUCTIONAL TIME (Cont'd)

- o The individual's innate disposition to learn can be put to use in infancy and early childhood. It is then that neglect by parents or adverse circumstance maims or crushes this natural capacity. Preschool deprivation is the cause of backwardness or failure in school. (11)
- o Local school districts should require a full year of mathematics and science in grades 7 and 8. (5)
- o For the school to succeed in giving the same quality of basic education to all children, all must be prepared for it in roughly equal measure. Hence, at least one year--or better, two or three years--of preschool tutelage must be provided for those who do not get such preparation from favorable environments. (11)

5. HOMEWORK

- o The amount of homework for high school seniors has decreased (2/3 report less than 1 hour a night) and grades have risen as average student achievement has been declining. (1)
- o Students in high schools should be assigned far more homework than is now the case. (1)
- o Although students who report doing the most homework score highest on national assessment tests--and those who report watching television and doing little homework score lower--explicit homework requirements and policies are a rarity in most school systems. (2)
- o ...establish firm, explicit and demanding requirements concerning homework. (2)
- o 36% of Japanese high school seniors report spending more than 10 hours per week on homework contrasted with only 6% of U.S. seniors. In the U.S. 52% of seniors report spending less than 5 hours per week, in Japan only 8% of seniors report spending less than 5 hours per week. (5)
- o Specific homework assignments should be required of all students on a regular basis. Such assignments should be suitably evaluated by the teacher. (5)
- o We are the only country in the world that is lax in this respect. No other country asks so little work of its children as we do. Some of our school "days" are over by noon and homework--not much of it at that--has become the exception. (11)
- o Practicing during after-school hours may well be required to meet the needs of the coaching teacher. When such homework is done, it must be carefully examined and corrected by the teacher. Without that, it comes to nothing. Moreover, parental support of homework is needed to see that it is done effectively. (11)

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A. Management

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Findings/Observations

5. HOMEWORK (Cont'd)

6. QUALITY OF CLASSWORK

- o Are students in elementary schools or high schools made to work too hard? Two-thirds of all respondents, in both the case of elementary school children and of high school students, agree that the workload given students is too light. An earlier survey of students found that students themselves say that they are not given enough homework. A significant change has been recorded since the 1975 survey when the same questions were asked of the public. At that time 49% said that students in elementary school were not required to work hard enough. In this year's survey the percentage has increased to 61%. In 1975, 54% said that high school students were not required to work hard enough; now that percentage is 65%. (9)
- o Productivity is low. Young people, who may spend well over 12,000 hours in school and who are maintained there at substantial expense, are nonetheless unprepared to take their places in society. In a narrower

Recommendations

- o The way one learns to teach oneself is to practice doing it and to have that practice critiqued. This absolutely requires serious independent work (homework) and time available both for teachers to challenge students' efforts and for students to struggle with this process of learning to learn. (12)
- o The academic experience should be intense and more productive. (2)
- o Top priority must be placed on providing earlier, increased and more effective instruction in mathematics, science and technology in grades K-6. (5)

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6. QUALITY OF CLASSWORK (Cont'd)

economic sense, schooling has become progressively less productive over the last decades. Greater investments seem not to have produced correspondingly greater yields, however defined. (12)

7. SCHOOL CLIMATE

- o The ambience of each class differs. The ambience of each school differs. These differences appear to have more to do with the quality of life and the quality of education in schools than do the explicit curriculum and the methods of teaching. (13)
- o Composite profiles of the schools we studied revealed differences in the degree to which entire schools were tipped toward or away from an academic ambience. Students' interests dominated throughout, but smart students, classes, and teachers fared much better in the popularity polls in some schools than in others. These schools were always perceived as most satisfying by teachers, students, and parents--and these were the schools in which students more often saw their peers as interested in learning and their school as one that provided a good education. In some of the least satisfying schools, however, non-academic elements had virtually taken over. The academic and intellectual functions of these schools were in serious jeopardy, and segments of all groups concerned seemed to know it. (13)
- o Research studies on school effectiveness found that academically effective schools maintain a sense of order within the daily functions. (14)

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8. TEACHING PRACTICES

- o Much about good pedagogy is familiar. There remain, however, some old-fashioned yet enduring qualities in human relationships that still work: contagious enthusiasm, human sensitivity, optimism about the potential of the students. Improving instruction requires a variety of changes.
(10)
- o Teachers should use a variety of teaching styles--including lecturing to transmit information, coaching to teach a skill and Socratic questioning to enlarge understanding. But there should be particular emphasis on the active participation of the student. (10)
- o For classroom instruction to be effective, expectations should be high, standards clear, evaluation fair, and students should be held accountable for their work. (10)
- o The teacher's role in discussion is to keep it going along fruitful lines--by moderating, guiding, correcting, leading, and arguing like one more student! The teacher is first among equals. All must have the sense that they are participating as equals, as is the case in a genuine conversation. (11)
- o A premium is put on coverage at the expense of thoroughness... The torrent of facts poured over students is overwhelming, and the only way teachers can keep up the flow is to lecture--to feed students knowledge rather than expect them to forage on their own. (12)
- o Two major deficiencies stand out in all aspects of the curricula we studied, from state and district guides to the most important learnings perceived by students. The first is a failure to differentiate and see the relationships between facts and the more important concepts facts help us to understand. The second, closely related to the first, is a general failure to view subjects and subject matter as merely turf on which to experience the struggles and satisfactions of personal development. (13)

III. THE TEACHING-LEARNING PROCESS

A. Management

Findings/Observations

Recommendations

8. TEACHING PRACTICES (Cont'd)

- o At all levels of schooling (but somewhat less in the primary grades), curricular sameness characterized the topical organization, factual orientation, textbook content, and the things tested. The emphasis was on recall, not on problem solving or inquiry. The structure of knowledge, for instance, was sacrificed to activities that became the ends rather than the means. (13)
- o Students worked primarily alone in large-group settings--rarely collaborating on tasks requiring a division of labor, integration of effort, and shared rewards for accomplishment. (13)
- o What the schools in our sample did not appear to be doing was developing all those abilities commonly listed under "intellectual development": the ability to think rationally, to use and evaluate knowledge, intellectual curiosity, and a desire for further learning. Only rarely did we find evidence to suggest instruction likely to go much beyond mere possession of information to a level of understanding the implications of that information and either applying it or exploring its possible applications. Nor did we see in subjects generally taken by most students activities likely to arouse students' curiosity or to involve them in seeking solutions to some problem not already laid bare by teacher or textbook. (13)
- o In our visits to schools we received an overwhelming impression of students' passivity. Furthermore, they apparently rather enjoyed the dominant activity of listening, which demands so little of them. (13)
- o Students initiate about 7 minutes of the 150 minutes of talk (the rest of it carried on by teachers) in an average

Findings/Observations

Recommendations

8. TEACHING PRACTICES (Cont'd)

senior high school day. Talking requires the organization of thought and can be an important avenue to learning. Teachers, then, were doing most of the learning. Writing even short essays is also conducive to the organization of thought and to learning. Students were not doing much of this, either.

- o At all levels of schooling, a very few teaching procedures--explaining or lecturing, monitoring seatwork, and quizzing--accounted for most of those we observed overall in our sample of 1,016 classrooms. Teachers varied in the quality of their lecturing, for example, but "teacher talk" was by far the dominant classroom activity. Teachers rarely encouraged student-to-student dialog or provided opportunities for students to work collaboratively in small groups or to plan, set goals, determine alternative ways of achieving these goals, and the like. (13)
- o Our data revealed that the teachers we studied were aware of the desirability of having students participate in setting their own goals, making choices, solving problems, working cooperatively with peers, and so on. But these views were tempered by conflicting ones having largely to do with maintaining control. Those time-honored practices that appeared to help maintain control won out. (13)
- o Teachers are reinforced in teaching the facts and skills of the school subjects as though these are primarily what school-based education is all about. And, in practice, it is. (13)

III. THE TEACHING-LEARNING PROCESS

A. Management

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Findings/Observations

Recommendations

8. TEACHING PRACTICES (Cont'd)

- o Key to the expansion of education in the next 50 years will be the computer. In every kind of setting, the emphasis will be on individualized instruction. (16)
- o Teaching in elementary grades will be streamlined not only according to ability and IQ but also on the basis of tests revealing how an individual brain works best and in what environment. (16)
- o Students, for example, who learn through hearing information would receive much of their instruction aurally, either from a teacher or a computerized recording machine. Visual learners would spend more time reading and writing on computer screens. (16)
- o Just because students will carry a personal computer instead of a book bag, teachers will not disappear. Futurist Christopher Dede of the University of Houston at Clear Lake notes that computers will be effective in teaching subjects such as math, but "in areas such as creative writing, where there are many different right answers, machines will never teach as effectively as people." (16)

9. INSTRUCTIONAL MATERIALS AND TEXTBOOKS

- o Expenditures for textbooks and other instructional materials have declined by 50% over the past 17 years. While some recommend a level of spending on texts of between 5 and 10% of the operating costs of schools, the budgets for basal texts and related materials have been dropping during the past decade and a half to only 0.7% today. (1)
- o Textbooks and other tools of learning and teaching should be upgraded and updated to assure more rigorous content. We call upon university scientists, scholars, and members of professional societies, in collaboration with master teachers, to help in this task, as they did in the post-Sputnik era. They should assist willing publishers in developing the products or publish their own alternatives where there are persistent inadequacies. (1)

III. THE TEACHING-LEARNING PROCESS

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Recommendations

9. INSTRUCTIONAL MATERIALS AND TEXTBOOKS (Cont'd)

- o Too few experienced teachers and scholars are involved in writing textbooks. During the past decade or so a large number of texts have been "written down" by their publishers to ever-lower reading levels in response to perceived market demands. A recent study by Education Products Information Exchange revealed that a majority of students were able to master 80% of the material in some of their subject-matter texts before they had even opened the books. Many books do not challenge the students to whom they are assigned. (1)
- o In many American schools, laboratories and instructional equipment are obsolete or unavailable, and good textbooks are in short supply. (2)
- o 60% of science teachers have had their budgets for supplies and equipment cut in recent years at a time when sophisticated equipment is surely needed in our schools. And the proportion of educational budgets devoted to textbooks has been cut in half in the last 17 years--the same period in which test scores measuring student achievement have also fallen. (2)
- o In considering textbooks for adoption, states and school districts should:
 - (a) evaluate texts and other materials on their ability to present rigorous and challenging material clearly; and
 - (b) require publishers to furnish evaluation data on the material's effectiveness. (1)
- o Because no textbook in any subject can be geared to the needs of all students, funds should be made available to support text development in "thin-market" areas, such as those for disadvantaged students, the learning disabled, and the gifted and talented. (1)
- o New instructional materials should reflect the most current applications of technology in appropriate curriculum areas, the best scholarship in each discipline, and research in learning and teaching. (1)
- o Schools should use high quality and up-to-date textbooks. We must take care to develop teaching materials aimed at attracting, motivating and establishing competency in every ability group. (2)
- o Up-to-date textbooks, curriculum materials, and equipment should be required. (5)
- o Textbooks seldom communicate to students the richness and excitement of original works. The classroom use of original source materials should be expanded. (10)

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9. INSTRUCTIONAL MATERIALS AND TEXTBOOKS (Cont'd)

- o States should ease their control over the selection of textbooks and transfer more authority to the district and local school. Teachers should have a far greater voice in selecting materials appropriate to their own subject areas. (10)

10. HIGH-TECH METHODS

- o Most American schools have only scratched the surface when it comes to integrating modern technology into instructional programs. The use of computers in schools is increasing; some states have launched effective leadership efforts in computer-assisted education. (2)
- o Computers are revolutionizing many areas of our lives; they may well do the same for education. They and other new technologies offer the potential to work patiently with every student, regardless of level or sophistication. They also offer a means to relieve teachers of much of the drudgery of routine exercise and record keeping. Furthermore, computers offer a wealth of interactive learning resources, including access to word processing, data bases, graphic capabilities and a host of related means to expand students' learning potential. (5)
- o Use of technologies in education--computers, film and videotape, is recommended to extend the reach of teachers. (2)
- o The National Science Foundation should lead in evaluating progress in the application of new technologies, supporting prototype demonstrations, disseminating information, and supporting research on integration of educational technologies with the curriculum. These plans should not interfere with private initiatives now underway. (5)
- o States should establish regional computer centers for teacher education and encourage the use of computers in the classroom for both teaching and administration. (5)
- o Top executives in the computer, communication, and information retrieval and transfer industries should develop plans which, in a good, economical and quick way, enable school systems to use the technology. (5)
- o The national and state education councils and school boards should work with school districts and schools to develop plans for implementing these technologies in the classroom. (5)

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A. Management

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10. HIGH-TECH METHODS (Cont'd)

- o Computers are now available to students in a surprisingly large number of U.S. schools. Nearly half of the parents of children attending the public schools and the nonpublic schools say that these schools now have computers that their children can use. And 8 in 10 of the parents with children in schools that do not have computers say they would like to have computers available for their children. (9)
- o Technology, particularly computers, can enrich instruction. But educators are confused about precisely what the new machines will do. The strategy seems to be: buy now, plan later. The absence of computer policy is itself a policy with major risks. A number of important steps should be taken to link computers to school objectives. (10)
- o Use of television, computers and videotapes will also create classrooms in libraries, museums, neighborhood centers and the home. As a result, futurists see a surge in "public" professors--national experts appearing electronically across the country. In the next century, academia's motto "publish or perish" could well become "perform or perish." (16)
- o No school should buy computers, or any other expensive piece of hardware, until key questions have been asked--and answered. Why is this purchase being made? Is available software as good as the equipment? What educational objectives will be served? Which students will use the new equipment, when, and why?
- o In purchasing computers, schools should base their decisions not only on the quality of the equipment, but also on the quality of the instructional material available. School districts also should take into account the commitment of the computer company to work along--or in collaboration with other companies--to develop instructional materials for schools. (10)
- o School districts with access to a cable channel should use the facility for school instruction, and a district-wide plan for such use should be developed. (10)
- o In a single classroom, desk-top computers will enable students to work at their own speeds and on different subjects at the same time. New research indicates young brains grow in spurts--not at a steady continuous pace, as previously thought. As a result, school curricula will be tailored to match stages of brain development.

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Recommendations

10. HIGH-TECH METHODS (Cont'd)

Skills such as mathematical reasoning will be emphasized in the age groups 2-4, 6-8, 10-12 and 14-16, when the brain is expanding rapidly, rather than at plateau phases when the brain cannot handle these tasks as well. (16)

11. DISCIPLINE

- o The burden on teachers for maintaining discipline should be reduced through the development of firm and fair codes of student conduct that are enforced consistently, and by considering alternative classrooms, programs, and schools to meet the needs of continually disruptive students. (1)
- o We recommend that the states and local school systems establish firm, explicit and demanding requirements concerning discipline, attendance, homework, grades and other essentials of effective schooling. (2)
- o Schools and school districts should adopt rigorous discipline policies which reflect goals and expectations. Clear, written statements should be distributed to students and parents at the beginning of the year. (5)
- o The problem of discipline continues to loom large in the public's mind. Thus, this year we attempted to find out who or what is chiefly to blame for the lack of discipline that the public says is a major problem in the local public schools. A card listing 11 reasons for a lack of discipline was handed to each respondent included in the survey... The percentage of votes given each of the 11 statements are as follows, listed according to frequency of mention:
 - 1. Lack of discipline in the home (72%)
 - 2. Lack of respect for law and authority throughout society (54%)
 - 3. Students who are constant troublemakers often can't be removed from school (42%)
 - 4. Some teachers are not properly trained to deal with discipline problems (42%)

III. THE TEACHING-LEARNING PROCESS
A. Management

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Findings/Observations

Recommendations

11. DISCIPLINE (Cont'd)

5. The courts have made school administrators so cautious that they don't deal severely with student misbehavior (41%)
6. Viewing television programs that emphasize crime and violence (39%)
7. Punishment is too lenient (39%)
8. Decline in the teaching of good manners (37%)
9. Teachers themselves do not command respect (36%)
10. Failure on the part of teachers to make classroom work more interesting (31%)
11. One-parent families (26%) (9)

- o A word must be said about deportment. Laxity in this respect can be completely frustrating to the efforts of the best teachers. Students must be required to behave in class and in school in a manner that is conducive to learning. (11)
- o The research studies on effective schools have continually found that good discipline is a significant factor in student achievement in academically effective schools. (14)

12. ATTENDANCE

- o Attendance policies with clear incentives and sanctions should be used to reduce the amount of time lost through student absenteeism and tardiness. (1)
- o We recommend that each state and local school system--indeed, the principals, teachers, and parents in each school--launch an energetic program to reduce absenteeism. (2)

III. THE TEACHING-LEARNING PROCESS
A. MANAGEMENT

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Findings/Observations

Recommendations

13. DROPOUTS

- o Students, as we have pointed out, improved during the seventies. Black high school students are now almost as likely as their white counterparts to graduate from high school. One-third of medical students now are women. (2)
- o Approximately 95% of Japanese teenagers now graduate from high school, compared with 74% in the United States. (2)
- o Percentages of high school graduates increased in the U.S. reaching a peak of 76.3% in 1969. The percentage declined to 74.5% in 1981. (5)
- o A report of the Bureau of the Census estimates that 15.9% of white, 21.3% of black and 36.3% of Hispanic youths aged 18 to 21 have not graduated from high school or obtained a high school equivalency degree. (5)
- o Year after year, about one out of every four students who enroll in school drops out before graduation. This nation cannot afford to pay the price of wasted youth. (10)
- o Examples of the growing number of high school dropouts include:
 - . In the bellwether state of California the dropout rate increased 83% during the 1970s and now is three times the national average.
 - . Ohio's Citizens Council for Ohio Schools reports the dropout rate has increased dramatically during the last 5 years.
- o Each state and local community should also establish broadly-based community programs to solve the dropout problem. This problem is so severe that in effect, 25 percent of all American young people are denied the opportunity for a complete education. Merely stiffening attendance requirements is not enough; efforts to deal with absenteeism and the dropout problem must also include revitalizing course materials and making educational schedules flexible enough to accommodate students who have special problems. (2)
- o Every high-school district, working with a community college, should have a re-entry school arrangement to permit dropouts to return to school part time or full time or to engage in independent study to complete their education. (10)

III. THE TEACHING-LEARNING PROCESS
B. Evaluation

79

Findings/Observations

Recommendations

1. TESTING AND GUIDANCE PROGRAM

- o The results of the question about the use of national tests as a way of judging the local schools reveals the public's faith in tests and, at the same time, the public's desire to have another measure of the quality of education in their own local schools. (Yes 75%, No 17%) One important provision should be added, however. Earlier survey reports have pointed out that comparisons should take full account of the composition of the school population. Comparisons are only valid if the local school population reflects the national population. Schools that draw students from poor
- o High schools should administer rigorous examinations requiring students to demonstrate their mastery of content and skill before receiving a diploma or a degree. (1)
- o Standardized tests of achievement (not to be confused with aptitude tests) should be administered at major transition points from one level of schooling to another and particularly from high school to college or work. The purposes of these tests would be to:
 - (a) certify the student's credentials;
 - (b) identify the opportunity for advanced or accelerated work. The tests should be administered as part of a nationwide (but not Federal) system of state and local standardized tests. This system should include other diagnostic procedures that assist teachers and students to evaluate student progress. (1)
- o We recommend that fair and effective programs be established to monitor student progress through periodic testing of general achievement and specific skills. Because the purpose of such testing should be to identify problems and deficiencies promptly, every school system should link its testing program to a carefully designed program of remediation and enrichment for students who need special help. (2)
- o Guidance counselors play an important role in academic and career advising. Every school district and each middle school and secondary school should establish mechanisms and procedures which obligate specific school personnel to inform all students of college entrance requirements in time for the required courses to be taken. (5)

Findings/Observations

Recommendations

1. TESTING AND GUIDANCE PROGRAM (Cont'd)

- neighborhoods where parents have had little education and where language barriers exist obviously cannot be expected to achieve the same levels of test scores as schools in high-income communities. (9)
- o There is an urgent need to help students figure out what they should do after graduation. (10)
- o The needs of the student for guidance are matched by the need of the school to be better informed about its graduates. (10)
- o State governments and education agencies have not been timid and unclear in regard to their minimal expectations for schools, particularly in recent years. Proficiency tests now set those expectations in many states. (13)
- o The federal government should finance and maintain a national mechanism for measuring student achievement and participation in a manner that allows national, state and local evaluation and comparison of educational progress. (5)
 - o Guidance services should be significantly expanded. No counselor should have a case load of more than one hundred students. Moreover, school districts should provide a referral service to community agencies for those students needing frequent and sustained professional assistance. (10)
 - o A new Student Achievement and Advisement Test (S.A.A.T.) should be developed, one that could eventually replace the S.A.T. The academic achievement portion of the test would link it to the core curriculum and to what the student has studied. The advisement section would assess personal characteristics and interests to help students make decisions more intelligently about their futures. The purpose is not to screen students out of options but to help them move on with confidence to colleges and to jobs. (10)
 - o The United States Department of Education--working through the states--should expand its national survey of schools to include a sampling of graduates from all high schools at four-year intervals to learn about their post-high school placement and experience. Such information should be made available to participating schools. (10)

III. THE TEACHING-LEARNING PROCESS

B. Evaluation

81

Findings/Observations

Recommendations

1. TESTING AND GUIDANCE PROGRAM (Cont'd)

- o If a teacher is to be held accountable for students' performances, then the achievement levels of the students when they enter school in the fall take on considerable significance. (13)
- o The effective schools research confirms that academically effective schools have a system for monitoring student progress on a regular basis and use the information. (14)

2. ACHIEVEMENT

- o International comparisons of student achievement, completed a decade ago, reveal that on 19 academic tests American students were never first or second, and, in comparison with other industrialized nations, were last 7 times. (1)
- o Average achievement of high school students on most standardized tests is now lower than 26 years ago when Sputnik was launched. (1)
- o The College Board's Scholastic Aptitude Tests (SAT) demonstrate a virtually unbroken decline from 1963 to 1980. Average verbal scores fell over 50 points and average mathematics scores dropped nearly 40 points. (1)
- o Both the number and proportion of students demonstrating superior achievement on the SATs (i.e., those with scores of 650 or higher) have also dramatically declined. (1)
- o SAT scores have been going down each year for more than a decade. In 1980 scores hit an all-time low: 424 for verbal and 466 for math, down from 473 and 496 in 1965, the year before scores plunged. (15)

III. THE TEACHING-LEARNING PROCESS

B. Evaluation

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Findings/Observations

Recommendations

3. MINIMUM COMPETENCY

- o "Minimum competency examinations (now required in 37 states) fall short of what is needed, as the "minimum" tends to become the "maximum," thus lowering educational standards for all. (1)
- o When state or local assessment projects test students for minimum competency, it is these minimal skills that are examined. We expect our schools to impart much more than these basic skills; we demand that they impart no less. (2)

4. GRADES

- o Grades should be indicators of academic achievement so they can be relied on as evidence of a student's readiness for further study. (1)

5. PROMOTION

- o Placement and grouping of students, as well as promotion and graduation policies, should be guided by the academic progress of students and their instructional needs, rather than by rigid adherence to age. (1)
- o We recommend that the practice of "social," or chronological, promotions be abolished; promotion from grade to grade should be based on mastery, not age. (2)
- o Every state should establish rigorous standards for high school graduation, and local school districts should provide rigorous standards for grade promotion. We should curtail the process of social promotion. (5)
- o Promotion from grade to grade based on examinations and not "social" promotion is favored by a substantial majority (75%) of the survey respondents. This view is shared by parents of school children (73%) and by those who have no children in school (75%) and by almost the same percentages. (9)

III. THE TEACHING-LEARNING PROCESS

B. Evaluation

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Findings/Observations

Recommendations

6. COMPETENCE OF GRADUATES

- o Paul Copperman, has drawn a sobering conclusion. Until now, he has noted:
Each generation of Americans has outstripped its parents in education, in literacy, and in economic attainment. For the first time in the history of our country, the educational skills of one generation will not surpass, will not equal, will not even approach those of their parents.

It is important, of course, to recognize that the average citizen today is better educated and more knowledgeable than the average citizen of a generation ago--more literate, and exposed to more mathematics, literature, and science. The positive impact of this fact on the well-being of our country and the lives of our people cannot be overstated. Nevertheless, the average graduate of our schools and colleges today is not as well-educated as the average graduate of 25 or 35 years ago, when a much smaller proportion of our population completed high school and college. The negative impact of this fact likewise cannot be overstated. (1)

- o Many adolescents complete high school unprepared for what follows in their lives; they are marginally literate, uninspired, possessed of only rudimentary skills, and imbued with a narrow view of the world. (12)
- o The generation graduating from high school today is the first generation in American history to graduate less skilled than its parents. (15)

C. Higher Education

1. ATTITUDE TOWARD COLLEGE

- o It will come as good news to college administrators that in the last 5 years the public has changed markedly in its view about the importance of a college

III. THE TEACHING-LEARNING PROCESS

C. Higher Education

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Findings/Observations

Recommendations

1. ATTITUDE TOWARD COLLEGE (Cont'd)

education. Since a question about the importance of a college education was first asked (1978), the percentage of individuals who say that a college education is "very important" has increased from 36% to 58%. Those with children now attending school are even more convinced of the importance of a college education. (9)

2. ADMISSION STANDARDS

o 1/5 of all 4-year public colleges in the U.S. must accept every high school graduate within the state regardless of program followed or grades, thereby serving notice to high school students that they can expect to attend college even if they do not follow a demanding course of study in high school or perform well. (1)

o About 23% of our more selective colleges and universities reported that their general level of selectivity declined during the 1970s, and 29% reported reducing the number of specific high school courses required for admission (usually by dropping foreign language requirements, which are now specified as a condition for admission by only one-fifth of our institutions of higher education). (1)

o Four-year colleges and universities should raise their admissions requirements and advise all potential applicants of the standards for admission in terms of specific courses required, performance in these areas, and levels of achievement on standardized achievement tests in each of the five Basics and, where applicable, foreign languages. (1)

o Institutions of higher learning should upgrade their entrance requirements. This will encourage the public schools to increase both the number of core academic subjects and time spent on such subjects as requirements for graduation and entry into post-secondary education. (2)

III. THE TEACHING-LEARNING PROCESS

C. Higher Education

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Findings/Observations

Recommendations

2. ADMISSION STANDARDS (Con't)

- o Colleges and universities should phase in higher mathematics and science entrance requirements, including 4 years of high school mathematics, including a second year of algebra, coursework covering probability and statistics, 4 years of high school science, including physics and chemistry, and one semester of computer science. (5)

3. REMEDIAL COURSES

- o Between 1975 and 1980, remedial mathematics courses in public 4-year colleges increased by 72% and now constitute one-quarter of all mathematics courses taught in those institutions. (1)
- o Someone has pointed out that the U.S. no longer teaches the three R's, but the six R's: remedial reading, remedial 'riting, and remedial 'rithmetic. This vast and expensive remedial enterprise continues beyond the 12th grade, for 25% of all college mathematics courses are remedial. The efforts of business and industry to remedy the educational failure of our schools is expensive beyond counting, and the military spends tens of millions of dollars each year in developing the basic reading skills of military personnel. These costs are the costs of low educational productivity. (2)
- o Remedial mathematics enrollments at 4-year colleges increased 72% between 1975 and 1980, while the number of students going to college increased only 7% in the same period--a fact which suggests the inadequacy of high school mathematics and science preparation. (2)
- o It should be our long-range goal to end remedial courses wherever possible: to make them unnecessary--because our schools will have done their work effectively the first time. (2)

Findings/Observations

Recommendations

3. REMEDIAL COURSES (Con't)

- o Colleges are hampered by the need to remedy the deficiencies of basic schooling. Instead of being able to rely on acquired knowledge, skills, and understanding, they are now compelled to teach all kinds of elementary work, to do what should have been done years earlier. (11)

4. PROGRAMS

- o We need more college programs in which the major course of study offered is common to all, with but few if any electives permitted. Such colleges would be ideal institutions for the preparation of the teachers to staff our reformed basic schools. (11)
- o Those going to college to prepare themselves for vocations requiring specialized knowledge and technical training should be able to choose among a wide variety of programs. But, in addition to such elective majors, there should be for all a required minor course of study that will carry them to levels of general, liberal, and humanistic learning beyond what they received in their basic schooling. (11)
- o To overcome the specialization that now abounds on all sides, it may be necessary for our graduate and professional schools, at the university level, to lighten the intensity of the specialization they demand by carrying general learning forward at still higher levels. (11)
- o We need specialists for our economic prosperity, for our national welfare and security, for continued progress in all the arts and sciences, and in all fields of scholarship. But for the sake of our cultural traditions, our democratic institutions, and our individual well-being, our specialists must also be generalists; that is, generally educated human beings. (11)

III. THE TEACHING-LEARNING PROCESS

C. Higher Education

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Findings/Observations

Recommendations

4. PROGRAMS (Con't)

- o In this century, a 25% drop in the number of 18-to-22-year-olds will doom scores of small private schools. The remaining 3,000 colleges and universities will provide only a part of a person's never ending education. (16)
- o Industry, for one, will become much more involved in education and job training. Hundreds of corporations will grant degrees, most often in high technology, science and engineering, where state-of-the-art equipment and research will surpass that on most campuses. (16)
- o Fifty years from now, a college education will mean as much as a high-school degree for the generation who came of age in World War II. In 2033, more than 60% of American adults will have attended college, compared with less than 30% today. (16)

5. COMPETENCE OF GRADUATES

- o Average tested achievement of students graduating from college is lower. (1)

D. ADULT LIFE-TIME EDUCATION

- o Normal schooling in youth is the essential foundation for learning throughout one's life. But without life-long learning, one's skills will become rapidly dated. (1)
- o Education is a lifelong process of which schooling is only a small but necessary part. The various stages of schooling reach terminal points. Each can be completed in a definite term of years. But learning never reaches a terminal point. (11)

- o In careers, expect more special college programs for bright students--whether these youngsters are needy or not. College will not be made available in the future for mediocre students because it will be too expensive. On the other hand, two-year community colleges with computers for job training will expand greatly. (16)

- o In a world of ever-accelerating competition and change in the conditions of the workplace, of ever-greater danger, and of ever-larger opportunities for those prepared to meet them, educational reform should focus on the goal of creating a Learning Society. (1)
- o Basic schooling--the schooling compulsory for all--must do something other than prepare some young people for more schooling at advanced levels. It must prepare all of them for the continuation of learning in adult life, during their working years and beyond. (11)

III. THE TEACHING-LEARNING PROCESS
D. Adult-Lifetime Education

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Findings/Observations

Recommendations

D. ADULT-LIFETIME EDUCATION (Con't)

- o If you specialize too much, you may find your specialty becoming obsolete in the long run. As a generalist, committed to lifelong education, you can change with the times. (15)
- o In education we are moving from the short-term considerations of completing our training at the end of high school or college to life-long education and retraining. The whole idea of what education is will be reconceptualized during the next decade. (15)

SUMMARY OF THE TEACHING-LEARNING PROCESS

The studies clearly agree that major structural changes in the current organizational patterns are needed at all levels in order to provide substantial improvement in the teaching-learning process. The rigidity imposed by scheduling and certification requirements places limitations on productivity and maintains firm control over the present structure. For teachers to have quality time to teach advanced thinking skills and develop reasoning and problem-solving skills, blocks of time within a functional organizational structure must be available.

Time is a major factor addressed in several reports. Recommendations are made to use allocated time more effectively, to extend the school day for all students or for students with special needs, and several recommend extending the school year. Emphasis on the need to begin science, mathematics and technology at an earlier age appears often, and the need to allocate more class time for these subjects in the elementary grades is expressed. The suggestion that instruction begin in the pre-school years for students who are educationally deprived is another alternative to provide more instructional time for students.

Homework has come to the forefront again and occupies a seat of honor. The accompanying qualifications are "more and effective".

Parents are urged to monitor the homework by providing adequate time and requiring a high quality of work. The same concerns are expressed about the quality of the work completed in class. The need for more intensive and productive learning experiences is evident.

Textbooks come under fire from several groups. They are judged as inferior in content, out-of-date with reference to current needs, and not challenging to the average or more able student due to "easy reading" vocabulary to accommodate the slow learner. The absence of the "electronic textbook" or computer and the recommendations for use of technology in instruction has received more attention than any other form of instructional practice. Information from the reports relating to technology surfaces in all sections of this analysis.

Discipline and attendance problems receive minimal space as areas of major concern even though discipline is considered the number one problem in education by the public.

The elimination of social promotion receives a unanimous vote from those addressing the subject. A solid vote was also cast for testing for knowledge of content. The need for a consistent and effective testing program designed to monitor student progress and promptly identify deficiencies is cited directly or implied in the studies. Minimum competency testing is accused of being the force behind lowering overall academic standards. Plans to retrieve the dropout for re-entry in the educational stream are outlined.

Higher education receives the same reprimand as elementary and secondary schools to raise admission standards, program standards and graduation standards. Higher education is not addressed in all of the reports. Secondary education receives one last stern rebuke through the acknowledged fact that colleges must provide remedial courses for applicants who test below admission standards.

Life-long learning brings a new dimension to the purpose of basic schooling and continuing education. The significant position this area holds in these reports has implications for decision-makers.

The teaching-learning process must be the key to a reorganized approach to education. This process, of course, must be geared directly to the standards, goals and expectations established. The question raised in Section I (who decides?) is applicable here. Another basic question (who pays for better pay, longer days/years, etc.) must also be clarified.

Competencies included in the Appendix provide some direction to the teaching-learning process. Clear decisions on competencies emanate from standards and expectations and are achieved through agreed upon procedures in the teaching-learning process.

THE PROFESSION

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NATIONAL STUDIES		IV. THE PROFESSION TEACHER EDUCATION Quality of Applicants Admission Standards Program Standards THE PROFESSIONAL TEACHER Inservice Education Teacher Shortage Qualification/Certification Teacher Time Teacher Evaluation Incentives Salaries Merit Pay/Career Ladders THE PRINCIPAL ATTITUDE OF PUBLIC																TOTALS	
1	A Nation at Risk NCEE	*	*	*				*	*	*	*	*	*	*					10
2	Action for Excellence ECS	*	*	*			*	*	*	*	*	*	*	*	*	*			13
3	Academic Prep. COL.BD																		
4	Bldg. Partnerships PSI																		
5	Ed.Adm. 21st Cen. NSF			*			*	*	*	*		*	*	*				8	
6	Ed.&Eco.Pr., Fed.Role LCEEG											*				*		2	
7	Fed.El.& Sec. Ed. 20TH C.											*	*	*		*		4	
8	Federal Role NSBA												*					1	
9	Gallup Poll PDK							*			*		*	*		*		5	
10	High Schools CARNEGIE	*	*	*			*		*	*		*	*	*	*	*		10	
11	Paideia Proposal ADLER			*				*				*	*			*		5	
12	Study of H.Schools NASSP											*	*	*				3	
13	Study of Schools GOODLAD			*			*									*		3	
14	Too Soon to Cheer?EF.S.RES.																		
	FUTURES REPORTS																		
15	Megatrends NAISBITT							*										1	
16	us News & World Report																		
	STATE REPORTS																		
17	Final Recommendations MSBE	*	*	*			*	*	*		*	*	*	*	*	*	*	12	
18	Policy Statement TSBE	*					*	*				*	*					5	
	TOTAL		5	4	7			5	7	7	4	4	8	11	10		6	82	

Findings/Observations

Recommendations

1. QUALITY OF APPLICANTS

- 0 Too many teachers are being drawn from the bottom quarter of graduating high school and college students. (1)
- 0 The teaching profession is not attracting a sufficient proportion of the most able college students. For several years, future teachers have ranked near the bottom of all groups taking the Scholastic Aptitude Test for college admission. In 1982, S.A.T. scores for students preparing to be teachers were 80 points below the national average. This is a disturbing fact. But it is probably what we should expect, given the low levels of pay and esteem that we accord teachers in America. (2)
- 0 Outstanding students should be recruited into teaching. We cannot have gifted teachers if gifted students do not enter the classrooms of the nation. When salaries and working conditions improve, prospects for recruiting talented young people will improve as well. (10)
- 0 Every high school should establish a cadet teacher program in which high school teachers identify gifted students and encourage them to become teachers. Such students should be given opportunities to present information to classmates, tutor other students who need special help, and meet with outstanding school and college teachers. Also, some districts may wish to establish a magnet school for prospective teachers. (10)

Findings/Observations

Recommendations

1. QUALITY OF APPLICANTS (Con't)

- o Colleges and universities should establish full-tuition scholarships for the top 5% of their gifted students who plan to teach in public education. These scholarships would begin when students are admitted to the teacher-preparation program at the junior year. (10)
- o The federal government should establish a National Teacher Service, especially for those who plan to teach in science and mathematics. This tuition scholarship program would be for students in the top one-third of their high-school graduating classes. Students admitted to the National Teacher Service would be expected to complete successfully an academic program and teach at least 3 years in the public schools. (10)

Findings/Observations

Recommendations

2. ADMISSION STANDARDS

- o The schooling of teachers must improve. There are serious problems with the education of our teachers. Many teacher-training programs are inadequate. The accreditation of schools of education is ineffective. The careful selection of teacher candidates is almost nonexistent, and college arts and science departments fail to recognize the critical role they play in teacher preparation. (10)
- o Persons preparing to teach should be required to meet high educational standards, to demonstrate an aptitude for teaching, and to demonstrate competence in an academic discipline. (1)
- o Prospective teachers should complete a core of common learning, one that parallels in broad outline the high-school core curriculum proposed in this report. (10)
- o Every teacher candidate should be carefully selected. Formal admission to teacher training should occur at the junior year, the time when students begin a three-year teacher-preparation sequence. Only students with a cumulative grade point average of 3.0 (B) or better and who have strong supportive recommendations from two professors who taught them in a required academic course should be admitted. (10)

Findings/Observations

Recommendations

3. PROGRAM STANDARDS

- o The teacher preparation curriculum is weighted heavily with courses in "educational methods" at the expense of courses in subjects to be taught. A survey of 1,350 institutions training teachers indicated that 41% of the time of elementary school teacher candidates is spent in education courses, which reduces the amount of time available for subject matter courses. (1)
- o In fact, it is a sad reality that, for all our grumbling about the quality of education, many of our prevailing policies and actions in education contradict the goal of improving quality; they undercut, wittingly or unwittingly, our stated goals of educational excellence; college requirements for post-secondary preparation in math and science, for example, have actually been cut back in recent years--although there is some recent evidence of a reversal of this trend. (2)
- o At the same time that we improve the quality of current teaching, we must raise our standards for new teachers. We must attract and retain superior talent, and must provide better training, better working conditions, and better compensation for high quality teachers, together with more demanding standards. (5)
- o Colleges and universities offering teacher preparation programs should be judged by how well their graduates meet these criteria. (1)
- o Master teachers should be involved in designing teacher preparation programs and in supervising teachers during their probationary years. (1)
- o We recommend that the states, singly or in cooperation with one another, establish better pre-service and in-service education programs for teachers, so that teachers can constantly enrich their academic knowledge and improve their skills. This will require a substantially restructured and renewed curriculum for teacher-training, which would include the management and application of technology. Each state must upgrade the academic quality of the curriculum for teacher training so that entering teachers will be prepared to meet higher standards. (2)
- o Elementary mathematics and science teachers should have a strong liberal arts background, college training in mathematics and the biological and physical sciences, a limited number of effective education courses, and practice teaching under a qualified teacher. (5)

Findings/Observations

Recommendations

3. PROGRAM STANDARDS (Con't)

- o Secondary school mathematics and science teachers should have a full major in college mathematics and science, a limited number of effective education courses, and practice teaching under a qualified teacher. (5)
- o Both elementary and secondary teachers should be computer literate. Teacher training should incorporate the use of calculators and computers in mathematics and science instruction. (5)
- o Liberal arts colleges and academic departments need to assume a much greater role in training elementary and secondary teachers. Basic education courses should be revised to incorporate current findings in the behavioral and social sciences. (5)
- o The teacher candidate should devote the junior and senior years to the completion of a major, plus appropriate electives. Every secondary-school teacher should complete a sharply focused major in one academic discipline, not in education. During the junior and senior years, time also should be scheduled for prospective teachers systematically to visit schools. (10)

Findings/Observations

Recommendations

3. PROGRAM STANDARDS (Con't)

- 0 After grounding in the core curriculum and a solid academic major, prospective teachers should have a fifth-year education core built around the following subjects: Schooling in America, Learning Theory and Research, The Teaching of Writing, and Technology and its uses. (10)
- 0 The fifth year also should include classroom observation and teaching experience. This is the best way, we believe, to learn about students and to develop effective methods of instruction. (10)
- 0 In addition, the fifth year of teacher preparation should include a series of six, one-day, common learning seminars in which students meet with outstanding arts and science scholar-teachers who would relate the knowledge of their fields to a contemporary political or social theme. Such seminars would help provide the interdisciplinary perspective every high-school teacher must acquire. (10)
- 0 The cooperative art of the teacher depends on the teacher's understanding of how the mind learns by the exercise of its own powers, and on his or her use of this understanding to help the minds of others to learn. (11)
- 0 Skillfulness is developed best by practice under supervision; that is, by coaching. All the skills of teaching are intellectual skills that can be developed only by coaching, not by lecture courses in pedagogy and teaching methods such as are

Findings/Observations

Recommendations

3. PROGRAM STANDARDS (Con't)

- o Teachers should themselves be at least as well-schooled as the graduates of the schools in which they are expecting to teach. They should have completed the required course of study we have recommended. Many teachers now employed in our public schools have not themselves had basic schooling of this quality, or even of the quality now provided in our better schools. (11)

now taught in most schools or departments of education and are now required for certification. (11)

- o Our future teachers should follow a course of study that is general, liberal, and humanistic. That course of study will add to their knowledge, develop their intellectual powers, and enlarge their understanding beyond the level of attainment set for basic schooling. Nothing less than this will start them on the way to becoming educated persons--our first and indispensable requirement for competent teachers. (11)

- o Professional education is intended to immerse the neophyte in the state of the art and science of teaching and simultaneously to separate him or her from the myths and anachronisms of conventional practice. Teacher education appears to be organized and conducted to assure precisely the opposite. (13)

Findings/Observations

Recommendations

1. INSERVICE EDUCATION

- o Not only is there a shortage of qualified mathematics and science teachers; there is a shortage also of summer institute and college programs to upgrade their skills. The programs of the National Science Foundation to retrain teachers after college, which were widespread during the sixties, no longer exist. (2)
- o Among those dedicated people who choose teaching--and who choose to remain in the profession--the lack of opportunity for in-service training is deeply discouraging. 40% of secondary-school science teachers have not attended a course or workshop in their subject area since they began teaching. (2)

- o State governments should develop teacher training and retraining programs in cooperation with colleges and universities. The potential of science museums as sites for such programs should be recognized, encouraged and supported. (5)
- o It is a federal responsibility to assure that, in the present crisis, appropriate retraining is available. In-service and summer training programs

Findings/Observations

Recommendations

1. INSERVICE EDUCATION (Con't)

- should be established with federal support. The Commission estimates the cost to the federal government of initiatives for retraining mathematics, science and technology teachers to be \$349 million per year for five years. (5)
- o For the long term, teacher training by the states should continue as an ongoing process. (5)
 - o Every state should establish at least one regional training and resource center where teachers can obtain supporting services such as computer instruction and software and curriculum evaluation. (5)
 - o The National Science Foundation should provide seed money to develop training programs using the new information technologies. (5)
 - o The continuing education of the teacher must be strengthened. We cannot expect a teacher trained 20 years ago to prepare students to live 40 years in the future with no policy of systematic continued education for the teacher. Even the most dedicated teacher will fall behind, and students will learn how to live, not in the future, but in the past. School boards must accept
 - o A two-week, Teacher Professional Development Term should be added to the school year, with appropriate compensation. This term for teachers would be a time for study, a period to improve instruction and to expand knowledge. The planning of such a term should be largely controlled by teachers at the school or district level. (10)

B. The Professional Teacher

Findings/Observations

1. INSERVICE EDUCATION (Con't)

lifelong learning as an essential condition for every teacher. (10)

- ° Kenneth Tye's analysis of a portion of our data revealed that staff development activities tended to pull teachers out of the school setting and to offer little substance and depth that might be likely to change existing behavior in significant ways. (13)

- ° Obviously, however, it is very difficult to break free of instructional and curricular rigidity--or surely the most satisfying and renewing schools in our sample would have done so. Dorothy Lloyd studied teaching and student achievement in two settings

Recommendations

- ° Every school district should establish a Teacher Travel Fund to make it possible for teachers, based on competitive application, to travel occasionally to professional meetings to keep current in their fields. (10)
- ° Every five years, teachers should be eligible to receive a 12-month contract--with pay to match--to permit a Summer Study Term. To qualify and compete for this extended contract, each teacher would prepare a study plan. Such a plan would be subject to review and approval both by peers and by the school and district administrations. (10)
- ° We must build into each school a continuing attention to instruction and the curriculum. This does not occur when teachers are drawn out of schools as individuals to engage willy-nilly in workshops and courses and are then returned to the isolation of their classrooms and a school culture where how and what one teaches are not matters for peer-group analysis, discussion, and improvement. Teaching must be taken out of its cloak of privacy and autonomy to become the business of the entire school and its staff. (13)

Findings/Observations

Recommendations

1. INSERVICE EDUCATION (Con't)

in which teachers had been exposed intensively to some of the most able consultants on instructional improvement in the field. These teachers rarely used what they had been taught, although they were able to reproduce the pedagogical procedures on demand. (13)

- ° Research studies on school effectiveness found that schools with high student achievement plan and direct staff development on a school-wide basis. (14)

Findings/Observations

Recommendations

2. TEACHER SHORTAGE

- o Despite widespread publicity about an overpopulation of teachers, severe shortages of certain kinds of teachers exist: in the fields of mathematics, science, and foreign languages; and among specialists in education for gifted and talented, language minority, and handicapped students. (1)
- o A survey in 1981 revealed that 43 of 45 reporting states indicated a shortage of secondary-school mathematics teachers; 42 states reported a shortage of physics teachers. Between 1971 and 1980, a survey of 600 colleges revealed a 64% decline in the number of secondary-school science teachers being prepared--and a 78% drop in the number of mathematics teachers. (2)
- o Top priority must be placed on retraining, obtaining and retaining teachers of high quality in mathematics, science and technology, and providing them with a work environment in which they can be effective. (5)
- o The public is evenly divided on the question of giving higher wages to math and science teachers and to those who teach technical and vocational subjects than to teachers of other subjects because of the present shortage of teachers in these fields. When those who have "no opinion" are eliminated, however, more respondents say that they favor paying these teachers higher wages than that they would oppose such a move. (9)

Findings/Observations

Recommendations

2. TEACHER SHORTAGE (Con't)

- o There is a shortage of qualified high school science and math teachers. But there is an even worse shortage of college-level computer science and engineering teachers. (15)

3. QUALIFICATION/CERTIFICATION

- o Half of the newly employed mathematics, science, and English teachers are not qualified to teach these subjects; fewer than one-third of U.S. high schools offer physics taught by qualified teachers. (1)
- o 51% of elementary school teachers report that they received no undergraduate training in science. (2)
- o 26% of all teaching positions in mathematics are filled by teachers who are not certified, or only temporarily certified, to teach mathematics. And this pool of disqualification seems to be expanding; among newly-employed mathematics and science teachers in 1981, 50% were uncertified to teach these subjects. (2)
- o Many of the teachers in elementary schools are not qualified to teach mathematics and science for even 30 minutes a day. A significant fraction of our secondary school teachers are called upon to work in subjects for which they were never trained. Even the most seasoned and experienced veterans must deal with subjects that are in a state of constant change; no one can remain knowledgeable in science without constant refreshing. (5)
- o State certification rules should be sufficiently flexible to encourage service in the public schools by qualified persons from business, industry, the scientific and technical communities and institutions of higher learning. (2)
- o We recommend that the states, with the fullest participation by teachers, improve the process by which teachers and administrators are certified to teach and manage in the schools. They must establish higher standards to ensure that only individuals who are competent and well qualified are licensed to teach and manage in the schools. (2)
- o States should adopt rigorous certification standards, but not standards which create artificial bars to entry of qualified individuals into teaching. (5)
- o A Part-Time Participant Credential should be created in every state to put in place the recommendations we propose. (10)

Findings/Observations

Recommendations

4. TEACHER TIME

- o Local school systems should explore ways to extend the employment year for mathematics science and technology teachers by providing reimbursement for ancillary activities, in-service, and by lengthening the school year. (5)

- o The working conditions of teachers must improve. Many people think teachers have soft, undemanding jobs. The reality is different. Teachers are expected to work miracles day after day and then get only silence from the students, pressure from the principal, and criticism from the irate parent. (10)

- o Administrative burdens on the teacher and related intrusions into the school day should be reduced to add time for teaching and learning. (1)

- o School boards should adopt an 11-month contract for teachers. This would ensure time for curriculum and professional development, programs for students with special needs, and a more adequate level of teacher compensation. (1)

- o Teacher contracts should be extended. (2)

- o High-school teachers should have a daily teaching load of four regular class sessions. In addition, they should be responsible one period each day for small seminars and for helping students with independent projects. (10)

- o Teachers should have a minimum of 60 minutes each school day for class preparation. The current catch-as-catch-can "arrangement" is simply not good enough. (10)

- o Teachers should be exempt from monitoring halls, lunchrooms, and recreation areas. School clerical staff and parent and student volunteers should assume such noninstructional duties. (10)

- o Think about all the many administrative, public relations, and quasi-menial duties that teachers are asked to perform, duties that take mind and energy away from teaching, and it is easy to understand why our educational system is not able to attract many of the ablest young into the teaching profession, or to turn those who do join the ranks into adequate teachers. (11)

Findings/Observations

Recommendations

5. TEACHER EVALUATION

- 0 Salary, promotion, tenure, and retention decisions should be tied to an effective evaluation system that includes peer review so that superior teachers can be rewarded, average ones encouraged, and poor ones either improved or terminated. (1)
- 0 We strongly recommend that the states examine and tighten their procedures for selecting not only those who come into teaching, but also those who ultimately stay. Teachers who are having difficulty teaching--whether because of teaching style, subject-matter expertise, discipline or other problems--should be given all possible encouragement and help to improve. But if, after all reasonable help has been provided, a teacher cannot or will not teach effectively, that individual does not belong in the profession. Ineffective teachers--those who fall short repeatedly in fair and objective evaluations--should, in due course and with due process, be dismissed. (2)
- 0 We recommend that boards of education and higher education in each state--in cooperation with teachers and school administrators--put in place, as soon as possible, systems for fairly and objectively measuring the effectiveness of teachers and rewarding outstanding performance. (2)
- 0 When respondents were asked in an "open" question about the personal qualities they would look for if they could choose their child's teacher, their responses indicate

Findings/Observations

Recommendations

5. TEACHER EVALUATION (Con't)

that they would seek a model of perfection--someone who is understanding, patient, friendly, intelligent, and who has a sense of humor and high moral character. Farther down the list the public would seek out a person who has the ability to motivate and inspire children and possesses enthusiasm for the subject being taught. (9)

6. INCENTIVES

- o Incentives, such as grants and loans, should be made available to attract outstanding students to the teaching profession, particularly in those areas of critical shortage. (1)
- o Social progress, ironically, intensifies the difficulty. In former years, when women and minorities suffered greater job discrimination than today, teaching was often their major opportunity for work at a professional level. Today, however, job opportunities are broadening for women and minorities; teaching can no longer monopolize their talents. (2)
- o In addition to higher salaries, we recommend that the states and communities, the media and business leaders, establish new forms of recognition to honor the contributions of teachers and to underscore publicly their critical importance in our national life. We have in mind special scholarships, financial awards and other tributes which express the value we place upon teaching as a profession--and our appreciation for greater teachers. (2)
- o Finally, we must take action to make the classroom a place where teachers can teach and children can learn--an exciting place with more opportunity for student-teacher interaction. We must build a professional environment that will attract and hold talented and well trained teachers, despite the allure of the private sector. (5)
- o State and local governments should work to improve the teaching environment. This includes greater administrative and parental support of discipline and attendance, fewer classroom interruptions, and higher academic standards, as well as the provision of needed equipment, materials and specialized support staff. (5)

IV. THE PROFESSION

B. The Professional Teacher

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Findings/Observations

Recommendations

6. INCENTIVES (Con't)

- o Professional societies, schools, states and the nation should find ways to recognize the performance and value of the excellent teacher. (5)
- o A Teacher Excellence Fund should be established in every school--a competitive grant program to enable teachers to design and carry out a special professional project. (10)
- o Good teachers should be given adequate recognition and rewards--from a student's "thank you," to cash awards, to active support from parents. Outstanding teachers also should be honored annually in every school district, and, statewide, by the governor and the legislature. Further, newspapers and other businesses in each community should adopt a teacher-recognition program with appropriate cash awards. (10)
- o Even though policy makers universally agree on the need to strengthen the teaching profession, many of them support policies that both patronize teachers and undermine their autonomy--that essential element of self-esteem. The teacher's role is codified today, all the way down to minutes-per-year-per subject. Teachers are told that their own competence is to be measured by credit hours of college courses taken, even though there is little evidence that quality derives from credits earned. Thus the system insults the intelligence of teachers.

Findings/Observations

Recommendations

6. INCENTIVES (Con't)

Policies seem to be drafted to squeeze the incompetents out of the profession rather than to attract the able into it. (12)

- o The teaching profession has a very limited career line. A teacher has roughly the same responsibility at the end of a professional lifetime as on the first day of work. As much as anything else, this state of affairs drives many able and ambitious people from the classroom. (12)

7. SALARIES

- o The average salary after 12 years of teaching is only \$17,000 per year, and many teachers are required to supplement their income with part-time and summer employment. (1)

Salaries for the teaching profession should be increased and should be professionally competitive, market-sensitive, and performance-based. (1)

- o Teachers salaries generally remain low in comparison to pay scales in other occupations. In Montgomery County, Maryland, for example--a prosperous Washington suburb whose school system is considered generally excellent--a liquor store clerk with a high school diploma and two years' experience earns \$12,479. A school teacher, however, with a college degree, special training in teaching, and the same amount of experience, earns less: only \$12,323. (2)

- o We recommend that every state and every local school district--with the fullest participation of teachers themselves--drastically improve their methods for recruiting, training and paying teachers. This improvement should begin with schedules of teacher pay that are competitive with pay in other jobs and professions. (2)

- o The differences between pay for a beginning teacher and pay for an experienced teacher are so small in most states, and are applied so gradually, that a powerful incentive is created for experienced teachers

Findings/Observations

Recommendations

7. SALARIES (Con't)

to leave the profession. Small wonder that 25% of teachers currently at work in the classroom have stated their intention to leave teaching in the near future! (2)

- o The average salary of beginning mathematics teachers with a bachelor's degree, for example, is now only 60% of the beginning salary offered by private industry to bachelor's degree. (2)

- o The organizations--the unions and professional associations--to which teachers belong have protected their weakest members rather than winning rewards for their strongest. They have promoted the principle of equal pay or, at best, a differential pay scale that primarily takes into account educational background and seniority, thereby limiting the financial incentives available for rewarding superior professional work. (8)

- o The collective-bargaining process, moreover, has not only made it difficult to encourage promising teachers or dismiss poor ones, it has forced many of the best to leave teaching for more financially rewarding work. (8)

- o When asked, "Do you think salaries for teachers in this community are too high, too low, or just about right," the responses were, too high 11%, too low 47%, and about right 42%. (9)

- o State and local governments should reward excellence in teaching and should provide opportunities for high quality teachers to move up a salary and status ladder without leaving the classroom. (5)

- o A federally funded national master-teachers program should be established. Such a program would award to the "best teachers from every state" a monetary grant for a period of five years. (7)

- o State and local governments should provide means for teachers to move up a salary and status ladder without leaving the classroom. (10)

- o Local school systems, military and other governmental entities, and the private sector should all explore ways to extend the employment year

Findings/Observations

Recommendations

7. SALARIES (Con't)

- o Teachers' salaries should be increased. When teachers' salaries are compared to other professionals, the contrast is depressing. For many teachers, moonlighting has become essential. Salaries for teachers must be commensurate with those of other professions, and with the tasks teachers must perform. (10)
- o Teachers' salaries should be increased while providing supplementary income and revitalizing experience. (10)
- o As a national goal, the average salary for teachers in public schools should be increased by at least 20% beyond the rate of inflation over the next three years. (10)
- o Bad working conditions are not the only reason why we do not have enough able teachers, or why good ones are prevented from performing as they should. Recruiting for the profession is hampered by the average rate of pay, which is often less than that in other less taxing lines of work. (11)
- o We pay our teachers too little for work they are expected to do. (11)
- o Teachers' salaries and benefits are not competitive with those in fields that require comparable preparation--particularly at the top levels. Moreover, teachers' salaries have fallen in real dollars over the last decade. The psychic rewards of teaching provide some compensation--but they don't pay dental bills. (12)

8. MERIT PAY/CAREER LADDERS

- o School boards, administrators, and teachers should cooperate to develop career ladders for teachers that distinguish among the beginning instructor, the experienced teacher, and the master teacher. (1)

Findings/Observations

Recommendations

8. MERIT PAY/CAREER LADDERS (Con't)

- o In every state, teachers are paid according to a rigid salary schedule based primarily on training and years of experience. No state, to our knowledge, has a system for rewarding exceptional teachers for their superior performance. (2)
- o Many teachers and teacher unions will have to reexamine their views about differential salaries in areas of shortage and systems of pay based on factors other than merely years of service and credits for "staff development." (5)
- o The public voted nearly two-to-one in favor of merit pay for teachers. (9)
- o A career path for teachers should be developed. Two of the most troublesome aspects of the teaching profession today are the lack of a career ladder and the leveling off of salaries. The irony is that to "get ahead" in teaching, you must leave it. Good teachers must be recognized and move forward within the profession, not outside it. (10)
- o We strongly recommend that each state create a "career ladder" for teachers that will help attract and keep outstanding teachers. There should be changing levels of responsibility, pay and status for teachers as they move through their careers. No good teacher should be forced to leave teaching and become an administrator as the only means of achieving higher pay and status in an educational career. (2)
- o School systems should explore means to adjust compensation in order to compete for and retain high quality teachers in fields like mathematics, science and technology. Compensation calculations must include consideration of intangible benefits such as the length of the work year, promotion potential, and similar factors. (5)
- o The proposed master-teacher program should pave the way for a merit-based personnel system for teachers which would foster improvement in quality. (7)
- o The credentialing of teachers should be separated from college preparation. To qualify for a credential, each candidate should submit letters of recommendation from members of the faculty in his or her academic major, from faculty in his or her education sequence, and from a teacher who has supervised his or her school internship. (10)
- o Before being credentialed, the candidate would also pass a written examination administered by a Board of Examiners to be established in every state. The majority membership on such a board should be composed of senior classroom teachers. (10)

Findings/Observations

Recommendations

8. MERIT PAY/CAREER LADDERS (Con't)

- 0 After credentialing, a career path based on performance should be available to the teacher, moving from associate teacher to senior teacher. (10)
 - 0 With each professional advancement, salary increases should be provided. Such increases would be in addition to cost-of-living and merit pay earned within ranks. (10)
 - 0 With each professional advancement, salary increases should be provided. Such increases would be in addition to cost-of-living and merit pay earned within the ranks. (10)
 - 0 The evaluation of teacher performance should be largely controlled by other teachers who themselves have been judged to be outstanding in the classroom. (10)
- 0 Top professionals want a career that gradually develops, with more responsibility and compensation following experience and demonstrated excellence. This requires differentiated staffing within teaching and salaries that follow this differentiation. Such schemes require us to redefine the ways of deploying teachers in schools. The record of schools being able to carry out such redefinitions is disappointing. The notion that every teacher is just like every other teacher has substantial momentum. (12)

Findings/Observations

Recommendations

C. PRINCIPAL

- 0 We recommend that pay for school principals, like that for teachers, be related to their responsibilities and their effectiveness, and we believe that extraordinary rewards should be established for extraordinary performance by principals. (2)
- 0 We recommend that the states establish higher standards for recruiting, training and monitoring the performance of school principals. Specifically, we urge that each state examine and improve its programs for training school principals and aspiring principals, and that effective new programs be established to train principals in effective educational management. (2)
- 0 We recommend that school systems expand and improve, at every level of administration, their use of effective management techniques. Business can help here, with exchange programs and other collaborative efforts to train school managers and to keep school officials abreast of the latest techniques in fiscal and personnel management. (2)
- 0 The principal should be well prepared. The basic preparation should follow that of teachers. (10)
- 0 A principal should complete all requirements for licensing as a teacher and serve a year as an "administrative intern." At least two years as an assistant principal should be served before one could assume a full principalship. (10)
- 0 Few principals have had either the necessary experience or the formal preparation required to assume such leadership. I recommend that each district continually search its schools for promising leaders and provide selected individuals with paid leaves of absence for securing the requisite training. States could do much to improve the quality of schools by providing districts with funds for such purposes. (13)

Findings/Observations

Recommendations

D. ATTITUDE OF THE PUBLIC TOWARD THE PROFESSION

- o The traditional commitment of teachers to quality education has been challenged by many forces, some that have affected all of society, others that are peculiar to the community of educators. The teacher--along with all other authority figures--does not appear to command the respect commonly accorded a generation ago. (7)
- o The complex organizational structure in which the classroom teacher now operates restricts independence and autonomy; as new organizational positions have proliferated, many of the best teachers have been "promoted" to better-paying administrative positions, devaluing the status of the teacher. (7)
- o In five surveys, beginning in 1969, respondents have been asked if they would like a child of theirs to take up teaching as a career. This year, substantially more respondents were undecided than in earlier years when the same question was asked. The percentage giving a definite yes answer this year is slightly lower than in 1981 and substantially lower than in 1969, when 75% of all respondents said that they would like a child of theirs to take up teaching in the public schools as a career. The comparable figure today is 45%. To help explain this marked change, respondents were asked why they would, or would not, like a child of theirs to become a public school teacher. The answers to this question from those who said no, listed in order of frequency of mention, are: 1) low pay; 2) discipline problems; 3) unrewarding, thankless work; and 4) low prestige of teaching as a profession. Those who said that they would like a child of theirs to enter the teaching profession said that teaching: 1) is a worthwhile profession, 2) contributes to society, 3) is a challenging job, and 4) can make a real difference in a child's life. (9)

IV. THE PROFESSION

D. Attitude of the Public Toward the Profession

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Findings/Observations

Recommendation

D. ATTITUDE OF THE PUBLIC TOWARD THE PROFESSION (Con't)

- ° We fail to give teachers the respect that the worth of their service to the community deserves. Teachers in the U.S. do not enjoy the social status that the importance of their position merits. (11)

SUMMARY ANALYSIS OF THE PROFESSION

Teachers' salaries must become professionally competitive to attract and maintain qualified teachers. The reports recommend solutions ranging from direct salary increases to comprehensive incentive programs based on individual initiative and/or productivity. School boards are urged to develop merit pay plans, "career ladders," "career paths," or other performance related salary programs at the local level. One study recommends a national Master Teachers Program be established.

The attitude of the public toward the profession determines the degree of substantial support. From the response reported in Section V, the public appears to be willing to accept the responsibility provided the quality of instruction is commensurate. The groups call upon the colleges, universities, and the profession itself to set high standards for teacher education programs, entrance to the profession, and inservice education.

Schools are reprimanded soundly for assigning unqualified teachers to specialized academic classes. Several reports outline alternative plans for obtaining highly qualified teachers and for using professionals from businesses. Teacher shortage in critical areas is a reality across the entire nation; a potential crisis that is on the doorstep of every

local school district. Educators are urged to act individually and collectively through both short-term and long-range, broad-based plans to assure that the same problem does not recycle and once again appear at education's door.

RESPONSIBILITY/LEADERSHIP

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		V. RESPONSIBILITY/LEADERSHIP																			
NATIONAL STUDIES		Student	Teacher	Principal	Parents/Public	Private Education	Business-Education	Business-Ed. Partnerships	State-Local	Federal											TOTALS
1	A Nation at Risk NCEE	*	*	*	*		*	*	*												7
2	Action for Excellence ECS		*	*	*		*	*	*												6
3	Academic Prep. COL.BD	*	*	*	*			*													5
4	Bldg. Partnerships PSI						*	*	*												3
5	Ed.Adm. 21st Cen. NSF				*		*	*	*												4
6	Ed.&Eco.Pr.,Fed.Role LCEEG					*		*	*												3
7	Fed.El.& Sec. Ed. 20TH C.					*		*	*												3
8	Federal Role NSBA							*	*												2
9	Gallup Poll PDK				*	*															2
10	High Schools CARNEGIE		*	*	*		*	*	*												6
11	Paideia Proposal ADLER		*	*	*			*													4
12	Study of H.Schools NASSP		*																		1
13	Study of Schools GOODLAD		*	*	*			*													4
14	Too Soon to Cheer?EF.S.RES.		*	*																	2
FUTURES REPORTS																					
15	Megatrends NAISBITT					*	*														2
16	US News & World Report																				
STATE REPORTS																					
17	Final Recommendations MSBE																				
18	Policy Statement TSBE																				
TOTAL		2	8	7	8	4	6	11	8												54

A. Student

Findings/Observations

Recommendations

A. STUDENT

- o You forfeit your chance for life at its fullest when you withhold your best effort in learning. When you give only the minimum to learning, you receive only the minimum in return. Even with your parents' best example and your teachers' best efforts, in the end it is your work that determines how much and how well you learn. (1)
- o Students will need to bear in mind the effect of their own attitude on the learning process and on their school. They will need a sense of personal responsibility for their own progress and a desire to make full use of their teachers as resources. They must be willing to conduct themselves in ways that make learning possible for their classmates as well as for themselves (3)

B. TEACHER

- o Despite rhetoric to the contrary, the trends today are working to weaken the teaching profession. Ever more regulation comes from the top. There is a sort of vicious circle at work: teachers are weak, and therefore they must be regulated; good people will avoid the profession; therefore, teachers are weak... (12)
- o Teachers tend to be isolated in their own classrooms, in control of what goes on there and satisfied with the situation as it is. They feel impotent to effect schoolwide decisions, they do not wish to call upon resource people, they individually select their own inservice or post-credential college coursework... (13)
- o Proper accommodation of individual student differences demands that teachers have control over their own and their students' schedules and programs. (12)
- o Good teachers value their autonomy. They know they need it to do a first-class job. If they are denied autonomy, they do mediocre work--or leave teaching. If we want to attract and hold top professionals in teaching, we will have to give them appropriate autonomy. (12)
- o Teachers in our sample valued highly the autonomy in their classrooms that most perceived themselves as having. The degree to which the

V. RESPONSIBILITY/LEADERSHIP
B. Teacher

Findings/Observations

Recommendations

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principal also valued and supported this autonomy was a significant factor in teacher satisfaction. (13)

- o The effective schools research found that the staff controls the instructional and training decisions in academically effective schools. (14)

C. PRINCIPAL

- o In study after study it has been shown that one key determinant of excellence in public schooling is the leadership of the individual school principal. In those schools where the principal is well-trained, highly motivated, and zealously devoted to inspiring excellence among teachers and students, the effect is bracing...Yet in too many schools, principals spend too little time managing education and too much time managing everything else: buildings, grounds, paperwork and other efforts that are only indirectly related to teaching and learning. (2)
- o What we seek are high schools in which the school community--students, teachers, and principals--sees learning as the primary goal. In such a community, the principal becomes not just the top authority but the key educator, too. Rebuilding excellence in education means reaffirming the importance of the local school and freeing leadership to lead. (10)
- o The school principal in each school should be acknowledged as the school's leader and as the manager of its instructional program. The principal should be freed from distractions, encouraged to give priority to improving classroom instruction, given sufficient discretion over personnel and fiscal planning, and put squarely in charge of maintaining the school's morale, discipline and academic quality. This means that in many places, the prevailing definition of the principal's role must be changed to put the principal squarely in charge of educational quality in each school. (2)
- o Principals and staff at the local school should have more control over their own budgets, operating within guidelines set by the district office. Further, every principal should have a School Improvement Fund, discretionary money to provide time and materials for program development and for special seminars and staff retreats. (10)
- o Principals should also have more control over the selection and rewarding of teachers. Acting in consultation with their staffs, they should be given responsibility for the final selection of teachers for their schools. (10)
- o In order to give principals time to reflect upon their work and stay in touch with developments in education, a network of Academies for Principals

C. Principal (Cont'd)

Findings/Observations

- o It has been shown in repeated studies that the quality of teaching and learning that goes on in a school is largely determined by the quality of such leadership. Educational leadership by the principal is at present rare. Things being as they are, the principal has neither the time nor the inclination, even supposing the competence, to provide the leadership so sorely needed. (11)
- o School improvement shifts from the district level to the school site. Ideally, the staff, students, and parents of each school will gain in ability and confidence in managing the school's affairs. As the principal and teachers become increasingly comfortable with one another, they will include on their agenda for dialog and action those most sensitive and central matters of teaching and curriculum that appear to be so resistant to change. (13)
- o The energy necessary to school renewal--not merely to some modest gains in students' achievement--is primarily located in and very close to schools. This is, apparently, a very difficult lesson for us to learn. We readily admit the general ineffectiveness of mandated, top-down efforts to change schools when we read about them in the growing literature on such approaches. But to such approaches we commonly turn, nonetheless. (13)

Recommendations

should be established. (10)

- o The principal should have the authority to hire and fire teachers. The principal should have a voice--preferably a controlling voice--in assignments and promotions, so that these take place in a way most likely to advance the educational objectives of the school. (11)
- o The principal should have the authority and be given the power to enforce standards of conduct--that measure of decorum and good behavior on the part of the student body that is indispensable to learning and teaching. It is not only necessary for the principal to have such disciplinary powers: it is also necessary for parents to recognize the principal's authority in enforcing rules of conduct that make the school community a safe and sane place for learning. (11)
- o Each state should set for school districts a full range of educational expectations for individual schools. But the charge for meeting them is conveyed by the state to district offices, not from the state to individual schools. The district then holds its schools responsible and accountable for providing an appropriately comprehensive, balanced curriculum for each student. With this responsibility must go the requisite authority. (13)
- o Each school should lay out long-term (three- to five- year) plans of development. The expectation for the long-range plans should come from the district office, but the board and superintendent do not impose a uniform set of priorities on each school. Rather, plans come back through the principal of each school for annual or semiannual review. (13)

Findings/Observations

Recommendations

- o There is consensus among the studies on effective schools that strong instructional leadership on the part of the school principal has a significant impact on student achievement. (14)

- o The intent of the recommendations is to set in motion in each school a continuing planning process focused first on the conditions enhancing and inhibiting the healthy functioning of the school's ecosystem, and then to create a sense of responsibility and capability on the part of the faculty, students, and parents regarding school renewal. (13)

D. PARENTS/PUBLIC

- o Parents are charged with the responsibility to demand the best the schools and colleges can provide, to participate actively in their children's education, encourage and monitor diligent study, encourage good study habits, encourage them to take more demanding courses; etc. (1)

- o Parents should be enlisted in the education process in ways that are not now sufficiently widespread. We have in mind "contracts" between parents, students and schools to improve student performance--for example, programs that train parents in ways to help their children learn and study. (2)

- o The public's rating of the local public schools in 1983 follows the downward trend reported in the years since 1974 when this question was instituted. In 1974, 48% gave local public schools a rating of A or B. This year, the comparable figure is 31%. (The 1974 ratings were: A, 18%; B, 30%; C, 21%; D, 6%; fail, 5%; and don't know, 20%.) (9)

V. RESPONSIBILITY/LEADERSHIP

D. Parents/Public

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D. PARENTS/PUBLIC

- o More significant, perhaps, is the rating given their local public schools by parents with children attending public schools. In 1974, 64% of the parents gave the schools their children attended an A or B rating. This year, the comparable figure is 42%. (9)
- o The Commission calls upon educators, parents, and public officials at all levels to assist in bringing about the educational reform proposed in this report. We also call upon citizens to provide the financial support necessary to accomplish these purposes. Excellence costs, but in the long run mediocrity costs far more. (1)
- o The report of the President's Commission may have a positive effect in helping communities increase tax revenues for their local public schools--provided that such increases are aimed at raising educational standards. (9)
- o In an earlier question, included in this same survey, respondents were asked if they would vote to raise taxes if their schools claimed that they needed much more money. The vote on this question was 39% yes and 53% no. Although this represents an appreciable increase in the yes vote over 1981, it is far less than the 58% who say that they would be willing to pay more taxes to raise the standard of education throughout the nation. (9)
- o Two points need to be borne in mind. First, the public would obviously like to have the federal government contribute more to help finance the public schools. And second, respondents see a need for raising the educational standard throughout the nation. (9)
- o Parent-Teacher-Student Advisory Councils should be established at all schools. Further, a Parent Volunteer Program should be organized to tutor students, provide teacher aides, and other administrative, counseling, and clerical support. (10)

Findings/Observations

Recommendations

D. PARENTS/PUBLIC (Con't)

- o Parents should become actively involved in school-board elections, attend meetings, and be willing to serve as members of the board. (10)
- o Community coalitions--Citizens for Public Schools--should be formed to give leadership in the advocacy of support for public education. (10)

E. PRIVATE EDUCATION

- o American parents, who traditionally have insisted on a say in their children's schooling, can turn to private schools when they are not satisfied with public schooling--and some 10% of the school-age population attends private schools today. But the vast majority of children attend public schools, and it is critical that their parents be able to influence the quality of schooling...(7)
- o Many proposals have been made in recent years to give parents more of a voice in choosing where their children are educated. Among them are tax-credit plans and tuition vouchers. The Task Force does not endorse such proposals or recommend a major redefinition of the relationships between public and nonpublic schools. We believe that the provision of free public education must continue to be a public responsibility of high priority, while support of non-public education should remain a private obligation. We recognize that some children have not been able to learn in the present setting of public education. We cannot ignore, for example, students who repeatedly fail city or state competency examinations or fail in other ways to attain their academic capacity. (7)
- o The idea of the voucher system--a plan whereby the federal government allots a certain amount of money for the education of each child, regardless of whether the child attends a public,

V. RESPONSIBILITY/LEADERSHIP

E. Private Education

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Recommendations

E. PRIVATE EDUCATION (Con't)

parochial, or independent school-- is favored today by a clear majority of the public (51% to 38%). Significantly, public school parents favor the voucher system by a margin of 48% to 41%. (9)

- o There have been a variety of self-help responses to the continued disillusionment with the school system. Parent activism has increased, and private-school enrollments have increased dramatically. In its most radical form, the new educational self-help movement has produced a steady stream of new alternative schools and attempts to move the education process from the schools into the homes, either as a supplement to the regular school curriculum or as an outright threat to the compulsory education laws. (15)

F. BUSINESS/EDUCATION PARTNERSHIPS

- o Business and military leaders complain that they are required to spend millions of dollars on costly remedial education and training programs in such basic skills as reading, writing, spelling, and computation. (1)
- o The Department of the Navy, for example, reported to the Commission that one-quarter of its recent recruits cannot read at the ninth grade level, the minimum needed simply to understand written safety instruction. Without remedial work they cannot even begin, much less complete, the sophisticated training essential in much of the modern military. (1)
- o The Commission calls upon educators, parents, and public officials at all levels to assist in bringing about the educational reform proposed in this report. We also call upon citizens to provide the financial support necessary to accomplish these purposes. Excellence costs, but in the long run mediocrity costs far more. (1)
- o We encourage the continuation of efforts by groups such as the American Chemical Society, the American Association for the Advancement of Science, the Modern Language Association, and the National Councils of Teachers of English and Teachers of Mathematics, to revise, update, improve, and make available new and more diverse curriculum. (1)

Findings/Observations

Recommendations

F. BUSINESS/EDUCATION PARTNERSHIPS (Con't)

- o There is a considerable gap between the perceptions of school officials and the perceptions of employers when it comes to the adequacy of education for employment. More than 75% of school officials and teachers assessed the majority of graduates entering the work force as "adequately prepared." A large majority of employers, however, were convinced that graduates entering jobs in their companies had basic skill deficiencies in a majority of job categories. (2)
- o This wide perception gap suggests that employers and educators need to do a better job of communicating about what constitutes adequate educational preparation for work. It suggests, moreover, a potentially fruitful opportunity for creative collaboration: educational partnerships between businesses and schools, with an eye not only toward eliminating misunderstandings about education for work, but with the objective of improving skills and employability for millions of American young people. (2)
- o Substantial nonschool personnel resources should be employed to help solve the immediate problem of the shortage of mathematics and science teachers. Qualified individuals including recent graduates with mathematics and science degrees, graduate students, and industrial and retired scientists could, with appropriate preparation, immediately begin teaching in these fields. A number of our leading science centers have the capacity to begin educating and retraining teachers immediately. Other areas of critical teacher need, such as English, must also be addressed. (1)
- o We strongly recommend that leaders outside the traditional educational system--especially business leaders--take specific steps to help improve the schools. They, along with labor leaders and members of the scientific, engineering and technical professions, must become more active in public education. They must help marshal the resources needed to pay for quality education. They must communicate the skills that are needed in the workplace--and thus help educators define the standards that the schools should meet. They must share with school managers their expertise in planning, budgeting and management. They should encourage their employees to take a more active role in helping improve the schools. (2)
- o Business leaders across the nation should work actively to establish partnerships between businesses and schools: team teaching using teachers and specialists from industry, for example; customized job-training efforts between businesses and schools; the training of students and teachers in the use of equipment; courses actually taught in offices and factories; business-sponsored recognition for outstanding teachers and principals; and a host of other cooperative ventures. (2)

V. RESPONSIBILITY/LEADERSHIP
F. Business/Education Partnerships

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Findings/Observations

Recommendations

F. BUSINESS/EDUCATION PARTNERSHIPS (Con't)

- o State certification rules should be sufficiently flexible to encourage service in the public schools by qualified persons from business, industry, the scientific and technical communities and institutions of higher learning. (2)
- o Emphasis should be placed on the establishment of community partnerships, and on active involvement of local officials with the private sector. Mayors should be made aware, by Governors' Task Forces, of the importance of community partnerships and the need for them to play a key role in finding ways to join public and private resources to meet community needs. Every community needs a means by which to assure the continuing process of creating new jobs. This can best be accomplished by combining voluntarism, contributing, and investing in a focused approach through local public/private partnerships. (4)
- o Businesses and broadcasters should help to promote and publicize the efforts of institutions like science museums and public broadcasting. (5)
- o Local business groups and organizations with related interests should work with museums to supplement and encourage their activities and to create new programs that let children see science and technology in the real world. (5)
- o Youth organizations, museums, broadcasters and other agents of informal education should endeavor to make the environment for informal learning as rich as possible. (5)
- o Local school boards should foster partnerships with business, government

Findings/Observations

Recommendations

F. BUSINESS/EDUCATION PARTNERSHIPS (Con't)

- o Skilled professionals should be recruited to teach parttime in the nation's classrooms. More flexible arrangements will be needed to permit highly qualified nonacademic professionals to teach. Such "teachers" could serve in those fields where shortages exist--such as math and science--and provide enrichment in other fields as well. (10)
- o and academia to encourage, aid and support in solving the academic and financial problems of their schools. (5)
- o State and local school systems should draw upon the staffs of industry, universities, the military and other government departments, and retired scientists to provide sources of qualified teaching assistance. Local systems should take actions to facilitate the entry and classroom training of such special teachers. (5)
- o School districts should establish a lectureship program to permit qualified nonacademic professionals to teach on a part-time basis. Such teachers would devote most of their time to their regular jobs--in business or government or law or medicine--while also contributing significantly to education. (10)
- o School districts should look to recently retired personnel--college professors, business leaders, and others--who, after a brief orientation, could teach part-time in high-demand subjects. (10)
- o School districts should enter into partnerships with business and industry to create joint appointments. In this way, two-member teacher teams could be created with one member of the team teaching in school for a year or two while the other works at a nonschool-job. Then the cycle could be reversed. (10)
- o In-and-out teaching terms should be established--permitting a professional to teach for one to three years, step out, and then return for another one-to three-year term. (10)

V. RESPONSIBILITY/LEADERSHIP
F. Business/Education Partnerships

Findings/Observations

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F. BUSINESS/EDUCATION PARTNERSHIPS (Con't)

- o Schools need the help of industry and business and, business needs the school. The quality of work is linked to the quality of education. (10)

- o A Part-Time Participant Credential should be created in every state to put in place the recommendations we propose. (10)
- o Business should provide help for disadvantaged students through volunteer tutorial and family counseling service, and support special school and part-time apprenticeship experience for high-risk students. (10)
- o Businesses should provide enrichment programs for gifted students, especially those in science and mathematics, and for those in the new technologies. (10)
- o Business should provide cash awards for outstanding teachers. In addition, they should consider establishing Endowed Chair Programs in the schools. (10)
- o Corporate grants should provide sabbaticals to outstanding principals and a discretionary fund for principals to work with teachers on creative programs. Further, large corporations should donate the use of their training facilities for a week or two each year to house an Academy for Principals. (10)
- o To help schools improve their physical plant and science laboratories, business should sponsor a facilities and equipment program. In addition, appropriate industries should conduct inventories of science laboratories and help upgrade school equipment. (10)
- o All commercial television networks should set aside prime-time hours every week to air programs for education and thereby indirectly enrich the school curriculum. (10)
- o Every computer firm selling hardware to the schools should establish a Special Instructional Materials Fund.

V. RESPONSIBILITY/LEADERSHIP
F. Business/Education Partnerships

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F. BUSINESS/EDUCATION PARTNERSHIPS (Con't)

- o With the schools turning out an increasingly inferior product, corporations have reluctantly entered the education business. Some 300 of the nation's largest companies now operate remedial courses in basic math and English for entry-level workers, according to the Conference Board. Just when offices are demanding more highly skilled workers--to operate a word-processing machine, for example--what they are getting is graduates who would have a hard time qualifying for the jobs that are already technologically obsolete. (15)
- o Such a fund would be used to develop, in consultation with classroom teachers, high-quality, school-related software. (10)
- o For technology to be used effectively, teachers must learn about the new equipment. Computer companies should provide technology seminars for teachers to keep them up-to-date on the uses of computers as a teaching tool. (10)
- o Universities--with substantial cutbacks in federal funding, changes in their student populations, and the heavy blows of inflation--are hooking up right and left with companies for joint ventures in bioengineering and telecommunication: a new era of university-industry cooperation and a new concept of what a university is. (15)

G. State-Local

- o State and local officials, including school board members, governors, and legislators, have the primary responsibility for financing and governing the schools, and should incorporate the reforms we propose in their educational policies and fiscal planning. (1)
- o Principals and superintendents must play a crucial leadership role in developing school and community support for the reforms we propose, and school boards must provide them with the professional development and other support required to carry out their leadership role

V. RESPONSIBILITY/LEADERSHIP

G. State-Local

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Findings/Observations

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G. STATE-LOCAL (Con't)

effectively. The Commission stresses the distinction between leadership skills involving persuasion, setting goals and developing community consensus behind them, and managerial and supervisory skills. Although the latter are necessary we believe that school boards must consciously develop leadership skills at the school and district levels if the reforms we propose are to be achieved. (1)

- o It is our strong conviction that the states and local communities must have the chief responsibility for supporting the schools and for making educational policy. (2)
- o Our chief recommendation is that each governor, working in collaboration with the state's legislators, state and local boards of education, educators, business leaders and others, develop an action plan to improve education in the state's schools--in all grades. Each plan should acknowledge the central role of education in the state's future economic growth and in preparing citizens for jobs. It should set specific goals for educational improvement. It should suggest ways in which technology might be used to improve education. And each plan should establish clear timetables for achieving results and explicit methods for measuring progress. (2)
- o Each governor, working in partnership with other leaders, should appoint a broadly inclusive State Task Force on Education for Economic Growth with a threefold mission:
 - ° To create broad state and local understanding of the need for a well-educated work force and to create an understanding of the changing skills that are necessary for economic growth-

G. STATE-LOCAL (Con't)

- ° To promote policies and actions to improve education that can be pursued by leaders in both the public and private sectors-
- ° To establish alliances among community, business, labor, government and education leaders to improve education. (2)
- o Better use of existing resources must be the first priority in improving the public schools; how states and communities spend their education funds is as important as how much they have to spend. No consensus for increased investment in education can be built, in our judgment, unless citizens are convinced that their schools are sufficiently productive. The battle cry of the movement for educational reform cannot be, "More of the same!" And so our first recommendation on the subject of resources for education--a recommendation that is implicit throughout this action plan--is a simple one: that every school system and every school must enrich its academic programs and improve its management so that every education dollar now budgeted is better spent. (2)
- o Governors should establish task forces and sponsor seminars to develop community partnerships and promote voluntarism. (4)
- o The states should establish Governors' Councils to stimulate change, develop state educational goals, and monitor progress. (5)
- o State governments should promote and local school districts should establish exemplary programs in mathematics, science and technology as a major strategy toward upgrading all schools.(5)

V. RESPONSIBILITY/LEADERSHIP
G. State-Local

Findings/Observations

G. STATE-LOCAL (Con't)

- o Responsibility is diffused among teachers, principal, superintendent, and school board. The most significant decisions are made remotely. (13)

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- o States and communities across the nation do need to assign higher budget priority to improving education; they need to increase their investment of financial, human and institutional resources in new efforts to enhance education. Improving education will require new and better textbooks, equipment and facilities--and these cost money. Real improvements in education can be made only if citizens and their leaders are persuaded to invest sufficient funds and are reminded that better education cannot be bought with declining education budgets. The efforts called for elsewhere in this action plan represent our judgment about where new money for education might best be spent. Our recommendation, in sum, is this: more funds, from all sources, for education--but more money selectively invested in efforts that promote quality. (7)
- o The states should recognize that their overriding responsibility to the schools is to establish general standards and to provide fiscal support. The state education law should be revised to eliminate confusing and inappropriate laws and regulations and to provide a broad framework for mandates for the schools. (10)
- o Boards of education should hold special meetings with representatives of each school in their districts--principals and teachers--at least once a year. (10)
- o Good planning requires relevant data; few schools have such a data base...

V. RESPONSIBILITY/LEADERSHIP

G. State-Local

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Findings/Observations

Responsibilities

G. STATE-LOCAL (Con't)

- o Those who make and administer school policy are not in close communication with those whose primary concern with schooling pertains to the life of a single child or the lives of a few children in a specific place called school. The policy makers are attuned to statistics, the business community, the state of higher education--to the larger political scene. And the shift of educational resources and control to state governments has exacerbated this situation. (13)

School district offices and educational service centers should assist schools in securing the kinds of data necessary to determine priorities for improvement. (13)

H. FEDERAL GOVERNMENT

- o The federal government's role includes several functions of national consequence that states and localities alone are unlikely to be able to meet:

- protecting constitutional and civil rights for students and school personnel;
- collecting data, statistics, and information about education generally;
- supporting curriculum improvement and research on teaching, learning, and the management of schools;
- supporting teacher training in areas of critical shortage or key national needs;
- and providing student financial assistance and research and graduate training.

The assistance of the federal government should be provided with a minimum of administrative burden and intrusiveness. (1)

- o The federal government has the primary responsibility to identify the national interest in education. It should also help fund and support efforts to protect and promote that interest. It must provide the national

V. RESPONSIBILITY/LEADERSHIP
H. Federal Government

Findings/Observations

H. FEDERAL GOVERNMENT (Con't)

- o The Department of Education's PSI 16-member working group to coordinate private sector initiative activity, with established contacts in departmental and regional offices, is a model program for other agencies. (4)

Recommendations

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leadership to ensure that the nation's public and private resources are marshaled to address the issues discussed in this report. (1)

- o The federal government, in cooperation with states and localities, should help meet the needs of key groups of students such as the gifted and talented, the socioeconomically disadvantaged, minority and language-minority students, and the handicapped. (1)
- o Education is a national priority; for decades, the federal government has played a role in giving special educational help to groups in special need in helping guarantee access for the disadvantaged to education; in supporting student aid, research and development, and in helping meet the nation's critical labor needs. This is no time for the federal government to shirk these responsibilities, or to shrink suddenly from the issue of education as a national priority. The federal government's role, to be sure, is a supporting role. But that role is essential. (2)
- o Policymakers at every level of government should review and study the possible consequences on private sector initiatives of proposed policy initiatives prior to their implementation. (4)
- o The federal government should review the substantive legal or regulatory impediments at the federal level affecting private sector initiative. (4)
- o Departments and agencies should use discretionary funds both at the programmatic and secretary's level to encourage private sector initiatives.

V. RESPONSIBILITY/LEADERSHIP

H. Federal Government

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H. FEDERAL GOVERNMENT (Con't)

Small "seed money" and "pump priming" grants demonstrate a commitment to private sector initiatives that goes beyond conferences and technical assistance. (4)

- o Science broadcasts warrant continued and substantial federal support as well as corporate and other private support. Federal regulation of commercial stations should include a required period of educational programming for children. (5)
- o The federal government should finance and maintain a national mechanism for measuring student achievement and participation in a manner that allows national, state and local evaluation and comparison of educational progress. (5)
- o The federal government should provide supplementary support to encourage a full spectrum of community and educational activities by science museums. (5)
- o The President should immediately appoint a National Education Council, reporting directly to him, to identify national educational goals, to recommend and monitor the plan of action, to ensure that participation and progress are measured, and to report regularly to the American people on the standards and achievements of their schools. (5)
- o The federal government should encourage and finance, in part, the establishment of exemplary programs in mathematics, science and technology in every community, which would serve as examples and catalysts for upgrading all schools. (5)

- o The potential of exemplary or model programs has been demonstrated in cities and localities throughout the country. Typically, they exhibit high achievement from students of every background, have strong links to local resources, and set an example that should be emulated and replicated in every school. (5)

V. RESPONSIBILITY/LEADERSHIP

H. Federal Government

Findings/Observations

H. FEDERAL GOVERNMENT (Con't)

- o This Commission has not avoided the difficult issue of cost. Change requires investment. In the end, it may well be that a better educational system will yield greater efficiency, long-term economies and a more valuable output. But in the near future, our recommendations require substantial net investment at all levels. (5)

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- o We recommend that initially 1,000 such secondary schools and 1,000 such elementary schools be established throughout the country. The Commission estimates the cost to the federal government to do so is \$829 million, disbursed at the rate of \$276 million per year over a three year period. (5)
- o The federal government should support research into the processes of teaching and learning at both the basic level and the level of classroom application. (5)
- o As the leader and driving force to encourage change, we believe that the federal government should anticipate an initial investment of approximately \$1.51 billion for the first full year the recommended federal initiatives are in place, and (\$829 million of this amount will be disbursed over three years at the rate of \$276 million per year.) During succeeding years the federal appropriation will decline--to approximately \$680 million in the second year and \$331 million in the sixth year. We do not consider this an excessive investment in our nation's human capital. In fact, the cost is small compared to the much larger efforts and investments of local school systems, which ultimately carry most of the burden, responsibility and authority for the quality of our children's education. The federal government should study ways to protect the states and local communities from any anticompetitive effects on the states and local communities of increasing taxes for educational purposes. (5)
- o Before we shrink from our responsibility, consider the heritage that was passed to us. We must not do less for our children and future generations. (5)

V. RESPONSIBILITY/LEADERSHIP

H. Federal Government

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Findings/Observations

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H. FEDERAL GOVERNMENT (Con't)

- o Education "must move to the top of the national agenda if the nation is to prosper." Federal action is needed because "there is a pressing national need" that cannot be met by the states and the private sector alone. Because of the mobility of the population and the increasing specialization of the economy, they pointed out that education benefits the nation as a whole and not just the individual states. (6)
- o The National Science Foundation should take a leadership role in promoting curriculum evaluation and development for mathematics, science and technology. It should work closely with classroom teachers, technical experts from business and government, school boards and educational researchers, as well as with professional societies. Representatives of publishers and higher education associations should become involved as the work proceeds, to encourage development and transfer of these ideas to actual material for the classroom. (5)
- o Guidelines for federal legislation:
 - Improve mathematical and scientific literacy for the general population and develop high-level skills, including foreign language skills, among the most talented.
 - Include three levels of education in a comprehensive approach: schools, colleges, and adult retraining. Education for the new economy requires attention to both today's and tomorrow's workers in a systemic approach to improvement. The most immediate payoff comes with the retraining of adult workers. Mid-term effects come with changes in higher education. School improvement shows results over the long term. Concentration on any segment alone is insufficient.
 - Build on state and local initiatives. Many states have clearly taken the lead in the arena of education and economic growth. Federal legislation should recognize state and local leadership and encourage a bottom-up approach to program priorities. Local and regional needs vary. Federal accountability requirements should emphasize clear statements of goals, targets, and easily documented results.

V. RESPONSIBILITY/LEADERSHIP
H. Federal Government

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H. FEDERAL GOVERNMENT (Con't)

- Encourage partnerships among business/labor, education, and government. In many states, this tripartite collaboration is already taking place. Business has a stake in education, and its active participation in improving education is heartening evidence of a new era. Partnerships hold great promise and should be encouraged.
- Support both good programs already in operation and new programs aimed at reform. Much of what goes on in American education in schools and colleges is good and needs strengthening; yet reform is needed as well. Encouraging innovation and disseminating the results of evaluation are special federal responsibilities. The use of computers as a tool for instruction is an example of an exciting innovation with enormous potential that needs to be developed.
- Enlist the best scientific minds of the nation to work on school and college curriculum projects as well as teacher training. (6)
- o Federal legislation should recognize the dignity and worth of school and college teachers. Top-down reform on a large scale will not work. For change to take place, teachers must be involved at the beginning and feel committed to change. Improvement of the status of teachers is a long-term objective that is absolutely essential to the nation's future as is the development of enhanced opportunities for teachers to refurbish their skills and knowledge. (6)

V. RESPONSIBILITY/LEADERSHIP
H. Federal Government

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H. FEDERAL GOVERNMENT (Con't)

- o A smaller group of young people will be required to carry a heavier work burden in a more complex, technological society in the years ahead. Within ten years there will be 20% fewer college-age students entering the work force. And by the year 2000 upward of 30% of these young people will be black or Hispanic, the very groups now at the bottom of the educational and economic ladder. The nation will need all the black, Hispanic and female doctors, engineers, and scientists that we can educate. We can't afford educational casualties between now and the year 2000. (6)
- o Federal government should emphasize talent development among minorities and women. (6)
- o Federal legislation should provide incentives to leverage and encourage state, local, and private investment in education. A national approach to reform and support implies partnerships and multiple funding sources: federal, state, local, and private. An important federal role is to provide incentives for such widespread support to build upon it. Matching funds, tax incentives, and loan programs are examples of appropriate mechanisms. Targeted federal funds may also be necessary to ensure that underserved areas and populations have their needs met in the absence of funds from other sources. (6)
- o Build in a sustained federal role. This is a long-term problem that will not be solved by a quick fix. Only through sustained efforts over a period of time will significant results occur. An initial three to five year program is only a beginning. First year funding should be modest to allow for adequate planning. Increased funding in subsequent years should follow. (6)
- o National leadership for a sustained period of time is essential to keep the nation's feet to the fire with respect to the need for educational improvement. (6)
- o This Task Force calls on the executive and legislative branches of the federal government to emphasize the need for better schools and a better education for all young Americans. (7)
- o Educational quality cannot be legislated into existence. Still, Congress must not continue to be ostrichlike about the failings of primary- and secondary-school education. Its readiness to legislate on other aspects of education, whether in programs for the handicapped, or

Findings/Observations

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H. FEDERAL GOVERNMENT (Con't)

for all those whose English is limited or nonexistent, or for special interests--suggests to many Americans that quality education is not a national goal. That false impression must be erased. (7)

- o The Task Force acknowledges the depressed state of the teaching profession. For a wide variety of reasons, many of our best educators have left teaching for more financially rewarding work. Few of our ablest college graduates are choosing careers in teaching. The Task Force believes that the status of teaching must be reinforced, incentives for entering the profession must be provided, educators must be encouraged to improve their pedagogical skills, and excellent teachers must be rewarded and encouraged to remain in the classroom. (7)

- o Our political democracy rests on the conviction that each citizen should have the capacity to participate fully in our political life; to read newspapers, magazines, and books; to bring a critical intelligence to television and radio; to be capable of resisting emotional manipulation and of setting events within their historical perspective; to express ideas and opinions about public affairs; and to vote thoughtfully--all activities that call for literacy in English. (7)

- o From a national perspective, young men and women with proficiency in foreign languages are sorely needed now that we are increasingly involved in competitive trade and investment with the rest of the world. More and more jobs will be available in government, industry, trade, commerce, and the universities for

- o The federal government should fund a national Master Teachers Program to recognize and reward excellence in the classroom. Awards would:

- ° go to teachers in every state (with one or more recipients from every congressional district).
- ° be monetary grants above the top levels of existing salary schedules, and
- ° be granted for five-year periods (the first year to be spent in professional development, the last four in further teaching and in sharing skills with other teachers). (7)

- o The Task Force recommends that the federal government clearly state that the most important objective of elementary and secondary education in the U.S. is the development of literacy in the English language. (7)

- o The Task Force recommends that federal funds now going to bilingual programs be used to teach non-English-speaking children how to speak, read, and write English. (7)

- o The Task Force recommends that the federal government promote and support proficiency in English for all children in the public schools, but especially for those who do not speak English, or have only limited command of it. (7)

- o This Task Force wants every American public-school student to have the opportunity to acquire proficiency in a second language. (7)

Findings/Observations

Recommendations

H. FEDERAL GOVERNMENT (Con't)

- Americans who can converse with other people in their own languages and who can participate in strengthening our international ties. (7)
- o Although training in mathematics and science is a crucial national need, the number of teachers qualified to prepare U.S. children in these areas is rapidly diminishing. (7)
 - o The Task Force applauds federal efforts, both past and current, to insure that the needs of special categories of students--the poor, the handicapped, the non-English-speaking--are met, despite the inability of state or local governments to do so. (7)
 - o The Task Force also wishes to draw federal attention to the fiscal problems of school districts that are required by federal mandate to provide equal educational opportunities to large numbers of illegal aliens, a task well beyond the financial capabilities of such districts. (7)
 - o Underserved students who repeatedly fail city or state competency examinations or who fail in other ways to achieve at levels commensurate with their abilities should not be abandoned to "social promotion" or to repeated retention. The Task Force believes that the substantial sums now being spent on remediation for these students have not borne fruit. (7)
- o The federal government should emphasize programs to develop basic scientific literacy among all citizens and to provide advanced training in science and mathematics for secondary school students. (7)
 - o The federal government should sponsor an incentive program to augment the supply of teachers in science and mathematics, as well as in foreign languages, through loans to students who are preparing to teach in these areas, with 10% of each loan forgiven for every year (up to five) of actual classroom teaching. (7)
 - o The Task Force supports continuing federal efforts to provide special educational programs for the poor--and for the handicapped. (7)
 - o The Task Force believes that the guiding principle should be that categorical programs required by the federal government should be paid for from the federal treasury. (7)
 - o Federal "impact aid" should be re-formulated to assist school districts overburdened by substantial numbers of immigrant children; and that federal assistance--through specifically targeted, flexible federal grants--be given to depressed localities with large concentrations of immigrant and/or impoverished groups, as well as to districts making strong efforts to improve their educational performance. (7)
 - o The Task Force recommends the establishment of special federal fellowships for students who repeatedly fail, which would be awarded to school districts to encourage the creation of small, individualized programs staffed by certified teachers and run as small-scale academies. (7)

Findings/Observations

Recommendations

H. FEDERAL GOVERNMENT (Con't)

- o The findings from federally supported data collection and basic research have helped to identify areas of progress or emerging difficulties within education; sometimes these findings have also pointed toward possible solutions or focused national attention on the schools. (7)
- o Today, training in mathematics and science is critical to our economy. Our citizens must be educated in science if they are to participate intelligently in political decisions about such controversial issues as radiation, pollution, and nuclear energy. (7)
- o The federal government has a role to
 - require and finance equal access to educational opportunity;
 - assist the expansion of learning and quality education through research, as well as financial assistance to local school systems; and
 - provide general assistance where needed to provide the foundation for quality education. (8)
- o Poverty remains, indeed is now growing, as a problem of national significance. Given the magnitude of the problem, the human cost of not addressing solutions, the historical ease with which poor people have moved across state lines, and the incapacity of state and local government to finance education solutions, the rationale for a strong federal role is as center-stage today as it was in the 1960s. (8)
- o The federal government should continue:
 - The collection of factual information about various aspects of the education system itself; the collection of information about the educational performance of students, teachers, and schools across the nation.
 - Evaluation of federally sponsored education programs.
 - Fundamental research into the learning process. (7)
- o The Task Force recommends that the federal government emphasize programs to develop basic scientific literacy among all citizens and to provide advanced training in science. (7)
- o From the standpoint of the nation's economic future, the connection between elementary/secondary education to our national well-being is stronger now than ever. Clearly, there is a federal role in vocational education to identify national labor market trends--including emerging occupations of national significance. Further, federal assistance should be utilized to develop career awareness, innovations in curriculum and equipment, and to assist school systems to broaden the exposure of their students and staff to the business community. (8)
- o While it is desirable to have federal guidance for the use of funds, federal programs should not stifle local flexibility by overregulation--nor should they control the actual curriculum or methods of instruction

Findings/Observations

Recommendations

H. FEDERAL GOVERNMENT (Con't)

- o With respect to education programs, the question of funding should not be a federal value judgment as to whether the local community has the wealth to accommodate the costs of the students who have to be educated. Rather, the question of funding should be whether the federal government will pay at least some of its own way to help defray the obligations which its policies place on local school systems. (8)

which the local school district utilizes to fulfill the purposes of the federal legislation. In this regard, care must be taken to ensure that the pursuit of national objectives, on the one hand, does not diminish those other aspects of education which are best protected by the diversity and direction provided by locally elected school system leadership on the other. (8)

- o The national interest in education is so important, total expenditures for education are so high, and the growing information explosion so great, that a federal interest exists to finance efforts to determine what is, what works, to establish model/exemplary programs, and to share information. (8)
- o A National Film Library should be established with federal support. This resource center would secure outstanding film and television programs, both commercial and public offerings, index and edit them, and make them available for school use. (10)
- o A National Commission on Computer Instruction should be named by the Secretary of Education to evaluate the software now offered for school use and propose an ongoing evaluation procedure that would be available to the schools. Outstanding teachers should comprise an important segment of such a panel. (10)
- o Federal funds should be used to establish ten Technology Resource Centers on university campuses--one in each major region of the nation. These centers would assemble, for demonstration, the latest technology. Computer firms would provide equipment, materials, and personnel to demonstrate what is available--and how it can be used. (10)

V. RESPONSIBILITY/LEADERSHIP

H. Federal Government

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Findings/Observations

Recommendations

H. FEDERAL GOVERNMENT (Con't)

o Many of our public schools have fallen into disrepair. Laboratory equipment is in poor shape. The situation is as alarming as the decay of our highways, dams, and bridges. Federal action is needed now to help meet an emergency in the schools. (10)

o To achieve excellence in education the federal government also must be a partner in the process. In this report, we propose that funding of Title I of the Elementary and Secondary Education Act be increased to support all eligible students. (10)

o We call for a National Teacher's Service and a federally-funded network of Residential Academies in Science and Mathematics. (10)

o A new School Building and Equipment fund should be established, a federal program that would provide short-term, low-interest loans to schools for plant rehabilitation and for the purchase of laboratory equipment. (10)

o School improvement is dependent on public commitment. How we as a nation regard our schools has a powerful impact on what occurs in them. Support for schools can take many forms, and it must come from many sources. Citizens, local school boards, state agencies and legislatures, and the federal government must work together to help bring excellence to our public schools. (10)

SUMMARY ANALYSIS OF RESPONSIBILITY/LEADERSHIP

Fundamental to a functioning educational system in a democracy is a base of supportive participants. The responsibility for excellence in education rests on the shoulders of this broad base of support. According to the studies, the following groups share in the responsibility and the leadership: the students themselves, teachers, administrators, and school board members; parents, the community, the public at large, and the business world; and governing bodies at the state and federal levels. The task to rally the forces and move an entire nation toward designing and supporting an educational system that will educate all students to a higher level of excellence is awesome. Recognizing this fact, the members of the various commissions and task forces included recommendations in that direction to the nation.

Numerous suggestions are listed for action by school districts, parents, communities, and businesses at the local level. State governors are urged to assume a leadership role and activate resources at the state level while lending support to the efforts at the local and federal levels. The federal government is urged to take an active role in all areas where the state and local units cannot function appropriately with a caution not to diminish those aspects of education best protected by local leadership.

"Partnership" is the word that rings forth throughout the reports--partnerships within local, state and federal levels, among the segments of the various levels, and between levels. The suggested possibilities submitted in the reports are impressive and deserve serious consideration.

Everyone has a responsibility to continue to work individually and cooperatively for the future of education as this great nation moves into a new and exciting era.

		STANDARDS										SUBJECT AREAS										SPECIAL POPULATIONS					
		I. GOALS AND EXPECTATIONS										II. CURRICULUM															
		Goals and Expectations										Standards															
		Education for All										Graduation Requirements															
		English/Language Arts										Mathematics															
		Science										Technology															
		Reasoning/Thinking										Social Studies/Citizenship															
		Foreign Language										Vocational/Job Skills															
		Fine Arts										Health/Physical Education															
		Electives										Extra-Curricular															
		Bilingual/ESL										Economically Deprived															
		Gifted/Talented										Minorities/Women															
		Remedial/Ed. Deficient										Special Education															
NATIONAL STUDIES																						TOTAL					
1	A Nation at Risk	NCEE	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	20
2	Action for Excellence	ECS	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	13
3	Academic Prep.	COL.BD	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	11
4	Bldg. Partnerships	PSI	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	1
5	Ed.Adm. 21st Cen.	NSF	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	8
6	Ed.&Eco.Pr., Fed.Role	LCEEG	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	8
7	Fed.El.& Sec. Ed.	20TH C.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	10
8	Federal Role	NSBA	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	7
9	Gallup Poll	PDK	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	6
10	High Schools	CARNEGIE	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	20
11	Paideia Proposal	ADLER	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	18
12	Study of H.Schools	NASSP	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	10
13	Study of Schools	GOODLAD	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	11
14	Too Soon to Cheer?	EF.S.RES.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	2
FUTURES REPORTS																											
15	Megatrends	NAISBITT					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	4
16	US News & World Report		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	9
STATE REPORTS																											
17	Final Recommendations	MSBE	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	1
18	Policy Statement	TSBE	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	9
TOTAL		165	17	13	3	10	6	10	13	12	10	8	6	9	8	7	4	2	4	2	3	3	5	4	5	4	168

		MANAGEMENT												EVALUATION						HIGHER EDUCATION								
		III. TEACHING-LEARNING																										
		Organization	Class Time	School Day/Year	Ext. Instructional Time	Homework	Quality of Classwork	School Climate	Teaching Practices	Inst. Materials/Textbooks	Discipline	Attendance	Dropouts	Testing/Guidance	Achievement	Minimum Competency	Grades	Promotion	Competence of Graduates	Attitude Toward College	Admission Standards	Remedial Courses	Competence of Graduates	Adult-Lifetime Education				
NATIONAL STUDIES																								Totals				
1	A Nation at Risk	NCEE	*	*		*			*	*	*		*	*	*	*	*	*	*	*	*	*	*	16				
2	Action for Excellence	ECS	*	*	*	*	*		*	*	*	*	*		*	*	*			*	*		*	17				
3	Academic Prep.	COL.BD					*							*			*		*				4					
4	Bldg. Partnerships	PSI				*																						
5	Ed.Adm. 21st Cen.	NSF	*	*	*	*	*	*	*	*	*	*	*			*		*					14					
6	Ed.&Eco.Pr.,Fed.Role	LCEEG																										
7	Fed.El.& Sec. Ed.	20TH C.																										
8	Federal Role	NSBA																										
9	Gallup Poll	PDK		*		*			*	*		*				*		*					7					
10	High Schools	CARNEGIE	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*			18					
11	Paideia Proposal	ADLER	*	*		*	*	*		*									*	*	*		10					
12	Study of H.Schools	NASSP	*	*		*	*	*	*								*						7					
13	Study of Schools	GOODLAD	*			*	*	*	*			*	*										7					
14	Too Soon to Cheer?	EF.S.RES.		*		*	*	*		*		*											6					
FUTURES REPORTS																												
15	Megatrends	NAISBITT									*		*			*				*			4					
16	US News & World Report		*				*		*										*	*			5					
STATE REPORTS																												
17	Final Recommendations	MSBE	*						*														2					
18	Policy Statement	TSBE						*	*	*	*		*	*		*							7					
TOTAL			7	7	5	3	6	8	4	7	6	6	9	5	4	7	6	4	3	5	6	1	5	3	2	1	4	124

		V. RESPONSIBILITY/LEADERSHIP																		TOTALS
NATIONAL STUDIES		Student	Teacher	Principal	Parents/Public	Private Education	Business-Education	Business-Ed. Partnerships	State-Local	Federal										
1	A Nation at Risk NCEE	*	*	*	*		*	*	*											7
2	Action for Excellence ECS		*	*	*		*	*	*											6
3	Academic Prep. COL.BD.	*	*	*	*			*												5
4	Bldg. Partnerships PSI						*	*	*											3
5	Ed.Adm. 21st Cen. NSF				*		*	*	*											4
6	Ed.&Eco.Pr. Fed.Role LCEEG					*		*	*											3
7	Fed.El.& Sec. Ed. 20TH C.					*		*	*											3
8	Federal Role NSBA							*	*											2
9	Gallup Poll PDK				*	*														2
10	High Schools CARNEGIE		*	*	*		*	*	*											6
11	Paideia Proposal ADLER		*	*	*			*												4
12	Study of H.Schools NASSP		*																	1
13	Study of Schools GOODLAD		*	*	*			*												4
14	Too Soon to Cheer?EF.S.RES.		*	*																2
FUTURES REPORTS																				
15	Megatrends NAISBITT					*	*													2
16	US News & World Report																			
STATE REPORTS																				
17	Final Recommendations MSBE																			
18	Policy Statement TSBE																			
TOTAL		2	8	7	8	4	6	11	8											54

CONCLUSION

Education today finds itself in a place of prominence on the national agenda. Whether this recognition is political, social or some combination of reasons is a matter for concerned speculation.

The various reports on education analyzed in this paper speak to areas of specific quality. Quantity of educational experience receives only limited attention. This seems understandable in light of the great growth in educational services, programs and expanded opportunities in recent years.

The utilization of these reports to form a sense of direction for the future seems critical at this time. The reports are too important to be ignored. While definition of the role to be played by the federal government and the states is important, the maintenance of local control over education is essential to the preservation of the historical genius of public education in America.

Within the Tyler Independent School District these reports will be used as a yardstick by which standards, goals, curriculum, the teaching-learning process, the profession and areas of responsibility can be measured and compared. Directions for the future can then be determined with full realization of the findings and recommendations made by a variety of competent observers. It is hoped that this paper will assist in that process and that it might be useful to others who ponder future directions for education.

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APPENDIX

The competencies recommended by the major educational studies are categorized by subject on the following pages. The competencies recommended by the College Board are needed by all students planning to enter college. The competencies recommended by the Education Commission of the States are the basic skills and competencies needed for productive employment. They were submitted by the Task Force on Education for Economic Growth.

ENGLISH/LANGUAGE ARTS AND READING COMPETENCIES

Recommended by the College Board:

Reading

- ° The ability to identify and comprehend the main and subordinate ideas in a written work and to summarize the ideas in one's own words.
- ° The ability to recognize different purposes and methods of writing, to identify a writer's point of view and tone, and to interpret a writer's meaning inferentially as well as literally.
- ° The ability to separate one's personal opinions and assumptions from the writer's.
- ° The ability to vary one's reading speed and method (survey, skim, review, question, and master) according to the type of material and one's purpose for reading.
- ° The ability to use the features of books and other reference materials, such as table of contents, preface, introduction, titles and subtitles, index, glossary, appendix, bibliography.
- ° The ability to define unfamiliar words by decoding, using contextual clues, or by using a dictionary.
- ° The ability to read critically by asking pertinent questions about what one has read, by recognizing assumptions and implications, and by evaluating ideas.
- ° The ability to read a literary text analytically, seeing relationships between form and content.
- ° The ability to read with understanding a range of literature, rich in quality and representative of different literary forms and various cultures.

ENGLISH/LANGUAGE ARTS AND READING COMPETENCIES

Recommended by the College Board:

Reading (Con't)

- ° Interest in and a sense of inquiry about written works.
- ° The ability to respond actively and imaginatively to literature.

Recommended by the Education Commission of the States:

Reading

- ° The ability to identify and comprehend the main and subordinate ideas in a written work and to summarize the ideas in one's own words.
- ° The ability to recognize different purposes and methods of writing, to identify a writer's point of view and tone, and to interpret a writer's meaning inferentially as well as literally.
- ° The ability to vary one's reading speed and method and one's purpose for reading according to the type of material.
- ° The ability to use the features of printed materials, such as a table of contents, preface, introduction, titles and subtitles, index, glossary, appendix, bibliography.
- ° The ability to define unfamiliar words by decoding, using contextual clues, or using a dictionary.

Recommended by the College Board:

Speaking and Listening

- ° The ability to engage critically and constructively in the exchange of ideas, particularly during class discussions and conferences with instructors.

ENGLISH/LANGUAGE ARTS AND READING COMPETENCIES

Recommended by the College Board:

Speaking and Listening (Con't)

- ° The ability to answer and ask questions coherently and concisely, and to follow through on spoken instructions.
- ° The ability to identify and comprehend the main and subordinate ideas in lectures and discussions, and to report accurately what others have said.
- ° The ability to conceive and develop ideas about a topic for the purpose of speaking to a group; to choose and organize related ideas; to present them clearly in Standard English; and to evaluate similar presentations by others.
- ° The ability to vary one's use of spoken language to suit different situations.
- ° The ability to engage in discussion as both speaker and listener--interpreting, analyzing, and summarizing.
- ° The ability to contribute to classroom discussions in a way that is readily understood by listeners--that is, succinct and to the point.
- ° The ability to present an opinion persuasively.
- ° The ability to recognize the intention of a speaker and to be aware of the technique the speaker is using to affect an audience.
- ° The ability to recognize and to take notes on important points in lectures and discussions.
- ° The ability to question inconsistency in logic and to separate fact from opinion.

Writing

- ° The ability to conceive ideas about a topic for the purpose of writing.

ENGLISH/LANGUAGE ARTS AND READING COMPETENCIES

Recommended by the College Board:

Writing (Con't)

- ° The ability to organize, select, and relate ideas and to outline and develop them in coherent paragraphs.
- ° The ability to write Standard English sentences with correct: sentence structure, verb forms, punctuation, capitalization, possessives, plural forms, and other matters of mechanics, word choice and spelling.
- ° The ability to vary one's writing style, including vocabulary and sentence structure, for different readers and purposes.
- ° The ability to improve one's own writing by restructuring, correcting errors, and rewriting.
- ° The ability to gather information from primary and secondary sources; to write a report using this research; to quote, paraphrase, and summarize accurately; and to cite sources properly.
- ° The recognition that writing is a process involving a number of elements, including collecting information and formulating ideas, determining their relationships, drafting, arranging paragraphs in an appropriate order and building transitions between them, and revising what has been written.
- ° The ability to write as a way of discovering and clarifying ideas.
- ° The ability to write appropriately for different occasions, audiences, and purposes (persuading, explaining, describing, telling a story.)
- ° Skill and assurance in using the conventions of standard written English.

The English Language

- ° English, like every other language, operates according to

ENGLISH/LANGUAGE ARTS AND READING COMPETENCIES

Recommended by the College Board:

The English Language (Con't)

grammatical systems and patterns of usage.

- ° English continues to undergo change.
- ° English is influenced by other languages both ancient and modern.
- ° English has several levels of usage, and consequently the language appropriate in some situations may not be appropriate in others.
- ° English has many dialects.
- ° English words, like those of other languages, gather meaning from their context and carry connotation.

Recommended by the Education Commission of the States:

English

- ° The ability to organize, select and relate ideas and to outline and develop them in coherent paragraphs.
- ° The ability to write Standard English sentences with correct sentence structure, verb forms, punctuation, capitalization, possessives, plural forms, other matters of mechanics, word choice and spelling.
- ° The ability to improve one's own writing by restructuring, correcting errors and rewriting.
- ° The ability to gather information from primary and secondary sources, to write a report using this research; to quote, paraphrase, and summarize accurately; and to cite sources properly.

Speaking and Writing

- ° The ability to engage critically and constructively

ENGLISH/LANGUAGE ARTS AND READING COMPETENCIES

Recommended by the Education Commission of the States:

Speaking and Writing (Con't)

in the exchange of ideas.

- ° The ability to answer and ask questions coherently and concisely, and to follow spoken instructions.
- ° The ability to identify and comprehend the main and subordinate ideas in discussions, and to report accurately what others have said.
- ° The ability to conceive and develop ideas about a topic for the purpose of speaking to a group; to choose and organize related ideas; to present them clearly in standard English.

Recommended by the College Board:

Mathematics

- ° The ability to perform, with reasonable accuracy, the computations of addition, subtraction, multiplication, and division using natural numbers, fractions, decimals, and integers.
- ° The ability to make and use measurements in both traditional and metric units.
- ° The ability to use effectively the mathematics of: integers, fractions, and decimals; ratios, proportions, and percentages; roots and powers; algebra; geometry.
- ° The ability to make estimates and approximations, and to judge the reasonableness of a result.
- ° The ability to formulate and solve a problem in mathematical terms.
- ° The ability to select and use appropriate approaches and tools in solving problems (mental computations, trial and error, paper-and-pencil techniques, calculator, and computer).

Recommended by the College Board:

Mathematics (Con't)

- ° The ability to use elementary concepts of probability and statistics.
- ° The ability to apply mathematical techniques in the solution of real-life problems and to recognize when to apply those techniques.
- ° Familiarity with the language, notation, and deductive nature of mathematics and the ability to express quantitative ideas with precision.
- ° The ability to use computers and calculators.
- ° Familiarity with the basic concepts of statistics and statistical reasoning.
- ° Knowledge in considerable depth and detail of algebra, geometry, and functions.

Computing

- ° Familiarity with computer programming and the use of prepared computer programs in mathematics.
- ° The ability to use mental computation and estimation to evaluate calculator and computer results.
- ° Familiarity with the methods used to solve mathematical problems when calculators or computers are the tools.

Statistics

- ° The ability to gather and interpret data and to represent them graphically.
- ° The ability to apply techniques for summarizing data using such statistical concepts as average, median, and mode.
- ° Familiarity with techniques of statistical reasoning and common misuses of statistics.

Recommended by the College Board:

Algebra

- ° Skill in solving equations and inequalities.
- ° Skill in operations with real numbers.
- ° Skill in simplifying algebraic expressions, including simple rational and radical expressions.
- ° Familiarity with permutations, combinations, simple counting problems, and the binomial theorem.

Geometry

- ° Knowledge of two- and three-dimensional figures and their properties.
- ° The ability to think of two- and three-dimensional figures in terms of symmetry, congruence, and similarity.
- ° The ability to use the Pythagorean theorem and special right triangle relationships.
- ° The ability to draw geometrical figures and use geometrical figures and modes of thinking in the solving of problems.

Functions

- ° Knowledge of relations, functions, and inverses.
- ° The ability to graph linear and quadratic functions and use them in the interpretation and solution of problems.

College entrants expecting to major in science or engineering or to take advanced courses in mathematics or computer science will need the following more extensive mathematical proficiency.

Computing

- ° The ability to write computer programs to solve a variety of mathematical problems.

Computing (Con't)

- ° Familiarity with the methodology of developing computer programs and the considerations of design, structure, and style that are an important part of this methodology.

Statistics

- ° Understanding of simulation techniques used to model experimental statistics.
- ° Knowledge of elementary concepts of probability needed in the study and understanding of statistics.

Algebra

- ° Skill in solving trigonometric, exponential, and logarithmic equations.
- ° Skill in operations with complex numbers.
- ° Familiarity with arithmetic and geometric series and with proofs by mathematical induction.
- ° Familiarity with simple matrix operations and their relation to systems of linear equations.

Geometry

- ° Appreciation of the role of proofs and axiomatic structure in mathematics and the ability to write proofs.
- ° Knowledge of analytic geometry in the plane.
- ° Knowledge of the conic sections.
- ° Familiarity with vectors and with the use of polar coordinates.

Functions (Con't)

- ° Knowledge of various types of functions including polynomial, exponential, logarithmic, and circular functions.
- ° The ability to graph such functions and to use them in the solution of problems.

Recommended by the Education Commission of the States:

Mathematics

- ° The ability to perform the computations of addition, subtraction, multiplication and division using natural numbers, fractions, decimals and integers.
- ° The ability to make and use measurements in both traditional and metric units.
- ° The ability to use effectively the mathematics of integers, fractions and decimals, ratios, proportions and percentages, roots and powers, algebra and geometry.
- ° The ability to make estimates and approximations, and to judge the reasonableness of a result.
- ° The ability to use elementary concepts of probability and statistics.

Recommended by the College Board:

Science

Laboratory and Field Work

- ° The ability to distinguish between scientific evidence and personal opinion by inquiry and questioning.
- ° The ability to recognize the role of observation and experimentation in the development of scientific theories.
- ° Sufficient familiarity with laboratory and field work to ask appropriate scientific questions and to recognize what is involved in experimental approaches to the solutions of such questions.
- ° The skills to gather scientific information through laboratory, field, and library work.

Laboratory and Field Work (Con't)

- ° The ability to organize and communicate the results obtained by observation and experimentation.

Mathematical Skills

- ° A quantitative understanding of at least one field of science--an understanding that employs the basic mathematical proficiency for all students outlined in the foregoing description of learning outcomes in mathematics.
- ° The ability to interpret data presented in tabular and graphic form.
- ° The ability to draw conclusions or make inferences from data.
- ° The ability to select and apply mathematical relationships to scientific problems.
- ° The ability to use mathematical relationships to describe results obtained by observation and experimentation.
- ° The ability to interpret, in nonmathematical language, relationships presented in mathematical form.

Fundamental Concepts

- ° Understanding in some depth of the unifying concepts of the life and physical sciences including cell theory, geological evolution, organic evolution, atomic structure, chemical bonding, and transformations of energy.

Detailed Knowledge

- ° College entrants will need detailed knowledge of at least one field of science, usually the same field in which they have developed a quantitative understanding. This detailed knowledge could be in the earth sciences or in one of the newer, interdisciplinary fields of science. It could also be in one of the more tradi-

Detailed Knowledge (Con't)

tional fields: biology, chemistry, or physics.

- ° In biology such detailed knowledge includes the central concepts, principles, and basic factual material of most, if not all, of the following topics: molecular and cellular aspects of living things, structure and function in plants and animals, genetics, evolution, plant and animal diversity and principles of classification, ecological relationships, and animal behavior.
- ° In chemistry such detailed knowledge includes the central concepts, principles, and basic factual material of most, if not all, of the following topics: states of matter, structure of matter, solutions, reactions of matter (including acid-base and oxidation-reduction), stoichiometry, energy changes in chemical reactions, equilibrium, kinetics, and descriptive chemistry (including periodic classification, metals, nonmetals, and introductory organic chemistry).
- ° In physics such detailed knowledge includes the central concepts, principles, and basic factual material of most, if not all, of the following topics: mechanics, optics, wave phenomena, electricity and magnetism, heat and kinetic theory, atomic and nuclear physics, and relativity.
- ° College entrants expecting to major in scientific fields will need the more extensive mathematical proficiency for such students outlined in the mathematics section. Additional quantitatively based scientific study will also be important.

Recommended by the Education Commission of the States:

Science

- ° The ability to understand the basic principles of mechanics, physics and chemistry.
- ° The ability to distinguish problems whose genesis is in basic mechanics, physics or chemistry.

Science (Con't)

- ° The ability to apply basic scientific/technical solutions to appropriate problems.

Recommended by the Education Commission of the States:

Computer Technology

- ° The ability to follow predefined procedures and to understand when the procedure is completed successfully and when it is not.
- ° The ability to operate equipment that requires understanding of a predefined procedure, to know when operator action is required.
- ° The ability to recognize when a predefined procedure is in a special state and to identify the source of assistance.
- ° The ability to understand the basic functions of a computer device (terminal, CRT, etc.)

Recommended by the College Board:

Reasoning

- ° The ability to identify and formulate problems, as well as the ability to propose and evaluate ways to solve them.
- ° The ability to recognize and use inductive and deductive reasoning, and to recognize fallacies in reasoning.
- ° The ability to draw reasonable conclusions from information found in various sources, whether written, spoken, or displayed in tables and graphs, and to defend one's conclusions rationally.
- ° The ability to comprehend, develop, and use concepts and generalizations.
- ° The ability to distinguish between fact and opinion.

Recommended by the Education Commission of the States:

Reasoning

- ° The ability to identify and formulate problems, as well as the ability to propose and evaluate ways to solve them.
- ° The ability to recognize and use inductive and deductive reasoning, and to recognize fallacies in reasoning.
- ° The ability to draw reasonable conclusions from information found in various sources, whether written, spoken, tabular or graphic, and to defend one's conclusions rationally.
- ° The ability to comprehend, develop and use concepts and generalizations.

Recommended by the Education Commission of the States:

Reasoning (Con't)

- ° The ability to distinguish between fact and opinion.

Recommended by the College Board:

Social Studies

- ° Basic factual knowledge of major political and economic institutions and their historical development.
- ° Basic factual knowledge of the social and cultural fields of history.
- ° An introductory knowledge of the content and concepts of the social sciences.
- ° A grasp of major trends in the contemporary world (for example, nationalism or urbanization).
- ° Familiarity with a variety of written, numerical, and visual forms of data.
- ° Familiarity with the techniques of quantitative and nonquantitative analysis.
- ° Familiarity with diverse interpretations of data.

History

- ° Some understanding of the relationship between present and past, including contrasts between contemporary institutions and values and those of the past, the reasons for these contrasts, and leading continuities between past and present.
- ° Some understanding of how to approach the problem of change over time.

History (Con't)

- ° The ability to recognize historical cause and effect.
- ° The ability to identify major historical turning points.
- ° Some ability to develop historical interpretations.

More specifically, college entrants will need the following basic knowledge.

United States History

- ° The chronology and impact of political events, development of governmental and other social institutions, technological and environmental changes, and changes in social and cultural values.
- ° The interaction among peoples of different national origins, races, and cultures and how such interaction has shaped American history.
- ° The relationship between events and historical trends in the United States and trends elsewhere in the world, developed through analysis of major similarities and differences.

World Geography and Cultures

- ° The basic features of major societies and cultures in the contemporary world: their geography, major economic and social structure, political systems, and religions.
- ° The international context of contemporary diplomacy and economics.
- ° The historical developments underlying present connections and similarities among the world's peoples, and the major differences dividing them.
- ° The chronology and significance of major events and movements in world history (for example the Renaissance, the Industrial Revolution, and the spread of Islam).

Recommended by the College Board:

Social Science

- ° College entrants will need the following basic knowledge and skills in the social sciences.
- ° The ability to understand basic information developed by the social sciences, including statistical data and other materials.
- ° Familiarity with the basic method of the social sciences, that is, with the framing and empirical testing of hypotheses.
- ° A basic understanding of at least one of the social sciences (for example economics, political science, geography, or sociology) and of how its practitioners define and solve problems.
- ° Familiarity with how to approach a social topic or institution by means of ideas drawn from several social sciences.

Recommended by the College Board:

Foreign Language

- ° The ability to ask and answer questions in a simple conversation in areas of immediate need or on very familiar topics.
- ° The ability to pronounce the language well enough to be intelligible to native speakers.
- ° The ability to understand, with some repetition, simple questions and statements.
- ° The ability to read and understand the information presented in a simple paragraph.
- ° The ability to write a short paragraph on a familiar topic.

Recommended by the College Board:

Foreign Language (Con't)

- ° The ability to deal with everyday situations in the culture, such as greetings, leave-takings, buying food, and asking directions.

Recommended by the Education Commission of the States:

Basic Employment

- ° The ability and willingness to assume the responsibility of a good citizen.
- ° The ability to engage in interpersonal relationships.
- ° The ability to cope with requirements concerning attendance and punctuality.

Economics

- ° The ability to understand personal economics and its relationship to skills required for employment and promotability.
- ° The ability to understand our basic economic system (e.g., profits, revenues, basic law of supply and demand, etc.)

Recommended by the College Board:

Studying

- ° The ability to set study goals and priorities consistent with stated course objectives and one's own progress, to establish surroundings and habits conducive to learning independently or with others, and to follow a schedule that accounts for both short- and long-term projects.

Recommended by the College Board:

Studying (Con't)

- ° The ability to locate and use resources external to the classroom (for example, libraries, computers, interviews, and direct observation), and to incorporate knowledge from such sources into the learning process.
- ° The ability to develop and use general and specialized vocabularies, and to use them for reading, writing, speaking, listening, computing, and studying.
- ° The ability to understand and to follow customary instructions for academic work in order to recall, comprehend, analyze, summarize, and report the main ideas from reading, lectures, and other academic experiences; and to synthesize knowledge and apply it to new situations.
- ° The ability to prepare for various types of examinations and to devise strategies for pacing, attempting or omitting questions, thinking, writing, and editing according to the type of examination; to satisfy other assessments of learning in meeting course objectives such as laboratory performance, class participation, simulation, and students' evaluations.
- ° The ability to accept constructive criticism and learn from it.

Recommended by the College Board:

The Arts

- ° The ability to understand and appreciate the unique qualities of each of the arts.

The Arts (Con't)

- ° The ability to appreciate how people of various cultures have used the arts to express themselves.
- ° The ability to understand and appreciate different artistic styles and works from representative historical periods and culture.
- ° Some knowledge of the social and intellectual influences affecting artistic form.
- ° The ability to use the skills, media, tools, and processes required to express themselves in one or more of the arts.

College entrants also will profit from more intensive preparation in at least one of the four areas of the arts: visual arts, theater, music, and dance...